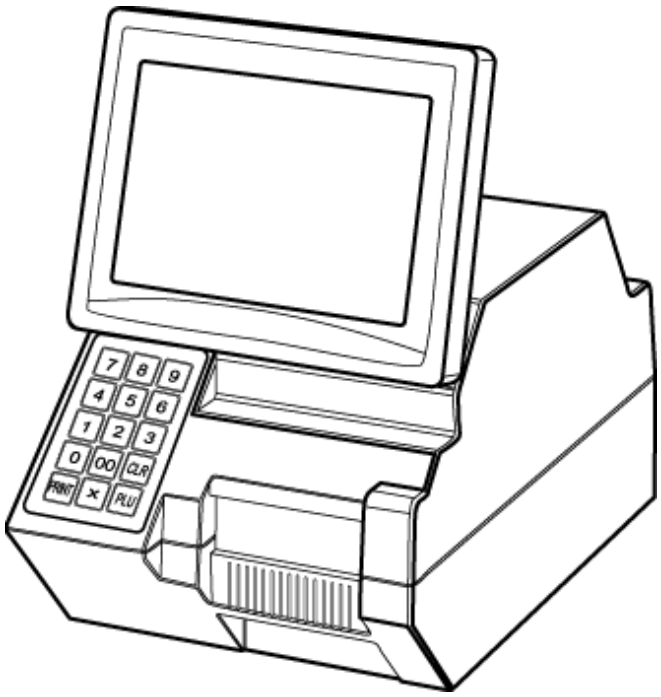
IL-2000SA

SERVICE MANUAL

First Edition, November 2007



Manual No. RS-61021-11

⚠ CAUTION

READ AND UNDERSTAND THIS MANUAL

- Thoroughly read and understand this manual before installing, operating, inspecting, or servicing the machine.
- Keep this manual in a safe place where you can refer to it whenever necessary.

ISHIDA CO., LTD.
107743

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SAFETY PRECAUTIONS

Those who handle the machine must be aware of the hazards involved. These dangers may not be obvious, so it is imperative to follow the instructions detailed in this manual when installing, operating, inspecting, or servicing the machine. Therefore, we recommend that you thoroughly read and understand this manual before installing, operating, inspecting, or servicing the machine.
ISHIDA is not liable for any damage, loss or injury that results from incorrect handling, insufficient caution, unauthorized modifications to the machine, or failure to follow the instructions contained in this manual.

In the recent weighing industry, the latent hazards involved with handling the machine have increased due to new materials, new processing methods, and higher processing speeds, and it is impossible to predict all of the possible dangers.

Likewise, there are far too many operations which cannot or should not be performed to fully describe all of them in the manual. Please assume that any operation not specifically described in this manual should never be performed.

Safety countermeasures should be carefully considered and implemented before performing any installation, operation, inspection, or maintenance procedure not specifically described in this manual or indicated on the machine itself.

Battery Disposal:

When replacing a battery, make sure that it is the same model or an equivalent. Dispose of used batteries according to the local regulations.

When replacing the board, follow local regulation on its disposal because the board contains lithium batteries.

MEANINGS OF SIGNAL WORDS

This machine is manufactured for use according to proper procedures by a qualified person and only for the purposes described in this manual. The following conventions are used to indicate and classify precautions depending on the level of danger, or seriousness of potential injury. Always heed the information provided in this manual. Failure to heed precautions can result in personal injury or property damage.

The following signal words are used in this manual.

⚠WARNING	Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally, there may be significant property damage
⚠CAUTION	Indicates a potentially hazardous situation where, if not avoided, may result in minor or moderate injury or in property damage.
	Indicates a reminder or emphasis of information.

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CHAPTER 1

OUTLINE

1.1 OUTLINE

The IL-2000SA is a label printer that has the same functions as the SR-2000α except for the weighing unit. The main board, printer board, and cassette of the IL-2000SA are common to the SR-2000α.

1.2 SPECIFICATIONS

Items	Descriptions
Model	IL-2000SA
Operating conditions	Temperature: 32 to 104°F (0 to 40°C) Humidity: 20 to 85% (no condensation)
Outer dimensions	8.9 (W) × 14.7(D) × 12.9-14.2 (H) inch 225 (W) x 370 (D) x 330-360 (H) mm
Operator display	7.7 inch STN LCD with back light, 640 × 480 dots
Preset keys	3960: 40 x 99 pages
Memory capacity	Standard: 34 MB
Communications	TCP/IP 10/100 Base T Ethernet
Interface	Two PCMCIA slots
Printing method	Direct thermal method
Thermal print head	3 inches (76/mm)
Printing speed	4” (100 mm) per second
Label size	Label width: 1.5” - 3.1” (30 mm to 80 mm) Label length: 1.2” – 7.9” (30 mm to 200 mm)
Label roll	Inside diameter: 1.6” (40 mm) Outside diameter: 3.9” (100 mm)
Label backing paper	Width: Up to 3.3” (84 mm)
Number of label cassettes	7 cassettes
Weight:	20.7 lb (9.4 kg)
Power supply	AC 110 to 120 V, 60 Hz, 4A
Warranty	One-year limited warranty
Weight	9.4 kg
Power supply	Canada: AC110 to 120[V] 60[Hz] 4[A] New Zealand: 220 to 240[V] 50/60[Hz] 2[A]

1.3 FEATURE

◆ Mechanical Components

(1) The machine height is lowered by sliding the thermal head forward.
The height is further lowered by adopting the prismatic reflection for the label sensor.

(2) The label adhesion is suppressed by applying the grain processing.

(3) The 3-inch wide label can be printed.

◆ Electric Components

(1) 7.7-inch color liquid crystal is adopted for the operator display. (640 dots × 480 dots)

(2) 7.7-inch touch panel is adopted for operation panel.

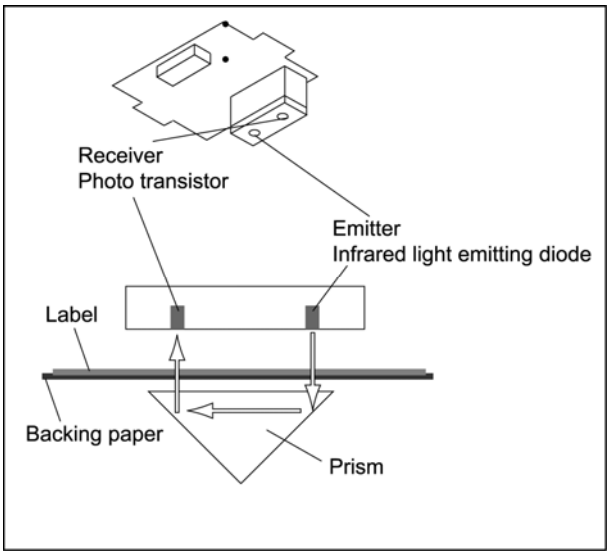
(3) 3-inch thermal head is adopted.
IL-2000SA (3 inches)

(4) Printing speed becomes faster.
IL-2000SA (100 mm/second)

(5) 3-inch wide label can be printed.
IL-2000SA (3-inch)

The print effective width is as follows:
IL-2000SA (76 mm)

(6) The mechanism is simplified by adopting the prism for the label sensor (transparent type), and the machine height can be lowered.



(7) The micro step drive is adopted for the label feeding motor, therefore, smoother rotation becomes possible.
IL-2000SA (micro step drive)

(8) Modular connector is adopted for the I^2NET communication.
L-2000SA (modular)

(9) The RS-232C port for general-purpose interlock is installed.
IL-2000SA (RS-232C port)

(10) The card slot (PCMCIA) port is provided.
IL-2000SA (PCMCIA port)

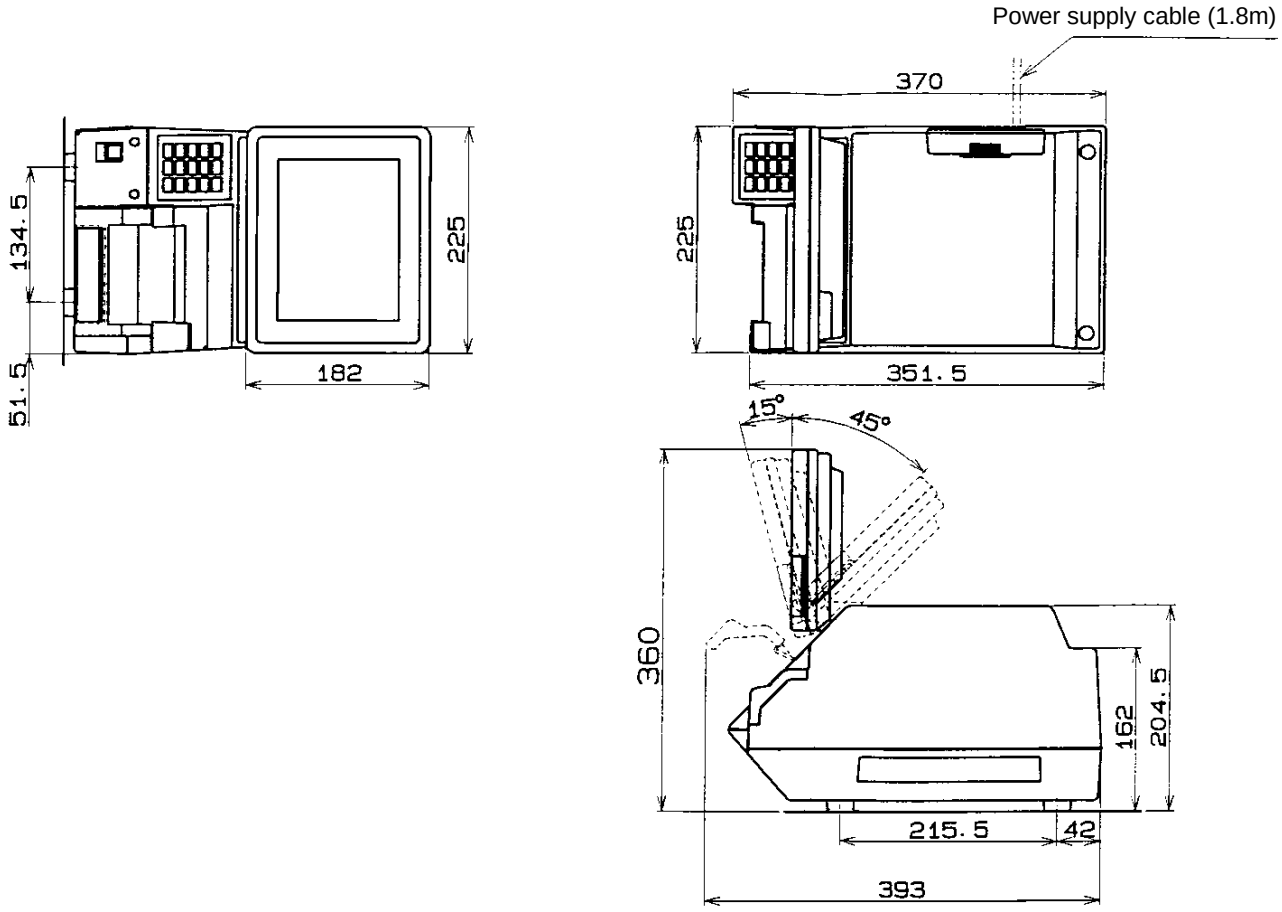
(11) CompactFlash/flash ROM is adopted for the program storage.
IL-2000SA (CompactFlash)

CompactFlash (32 Mbyte)..... OS + Application program
Flash ROM (1 Mbyte)..... Boot program

CHAPTER 2

INSTALLATION

2.1 OUTER DIMENSIONS



2.2 CONTENTS OF THE PACKAGE

Check that the following items are included in a package.

(1) IL-2000SA
(2) User's manual
(3) Head cleaning sheet (sheet wrapping film 68-5054-09)
(4) Cleaning pen

1. Items Required at the Delivery

(1) C/F card
(2) C/F card adapter

2.3 INSTALLATION

1. Installation Conditions

Do not install the machine in the following types of places:

(1) Places exposed to direct sunlight
(2) Places where water or other liquids are easily spilled on the machine
(3) Places subject to a lot of dust or dirt
(4) Places subject to excessive vibration or unstable foundations

Other required conditions:

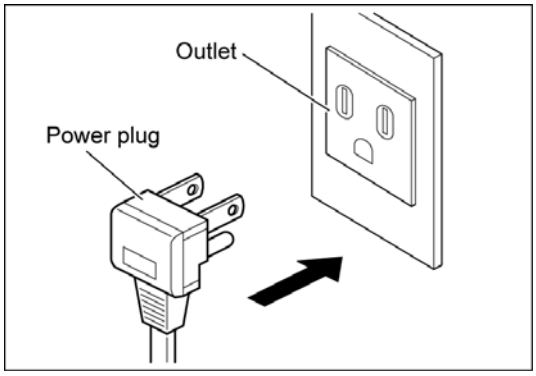
(1) Temperature range: 0 to 40°C, humidity: 20 to 85 % (no condensation)
(2) Power supply voltage must be stable

2. Connecting Options

Connecting wand scanner
Remove the cover at the lower part of the back of the display unit. Connect the scanner to the round shape DIN socket.

3. Power Supply

Specification of the power supply is provided on the specification plate. Make sure to use an appropriate power supply.
Power supply with noise or voltage drop may cause malfunction. Use a dedicated power supply.

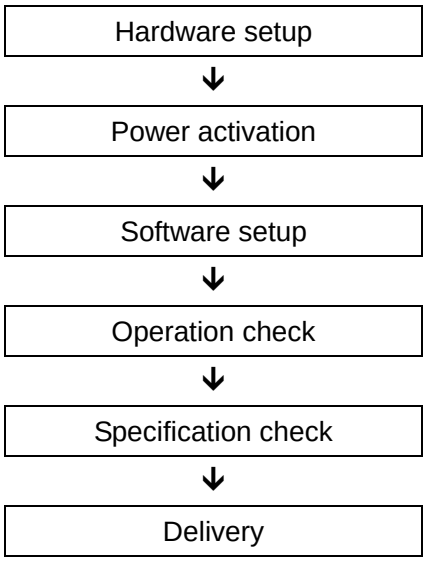


Example

WARNING To avoid electric shock, make sure to connect the ground wire (at least third class grounding).

2.4 SETUP

1. Setup Flow



2. Software Setup

For details in each mode, see Chapter 3.
Follow the steps below to set up the software.

(1) Activate the test mode.
(2) Initialize the memory (clear the master data, initialize the system data).
(3) Adjust the print (peel sensor level, printing density, label sensor distance, peel sensor distance).
(4) Activate the system menu.
(5) Set sale mode.
(6) Set a machine number.
(7) Set the holding data.
(8) Set the automatic update.
(9) Set the cassette.
(10) Set the label.
(11) Set the format.
(12) Set the printing item.
(13) Check the barcode.
(14) Check the file.
(15) Input/output the file.
(16) Activate the setting menu.
(17) Refer to the User's Manual to set necessary items.
(18) Activate the registration menu.
(19) Refer to the User's Manual to register the necessary items.
(20) Check the operation. (Perform production with user data.)

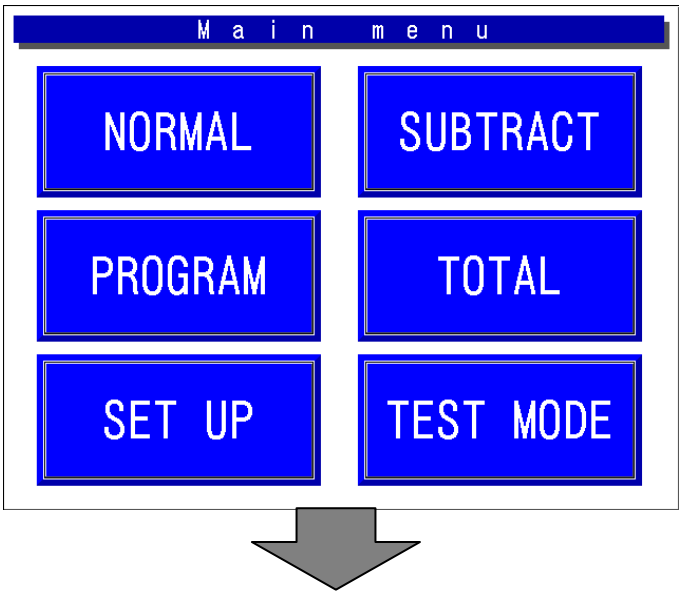
3. Handling Description

Give operating and handling instructions of the machine to users and check that the instructions are fully understood.

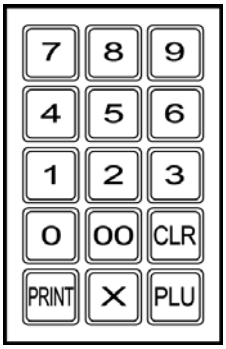
CHAPTER 3

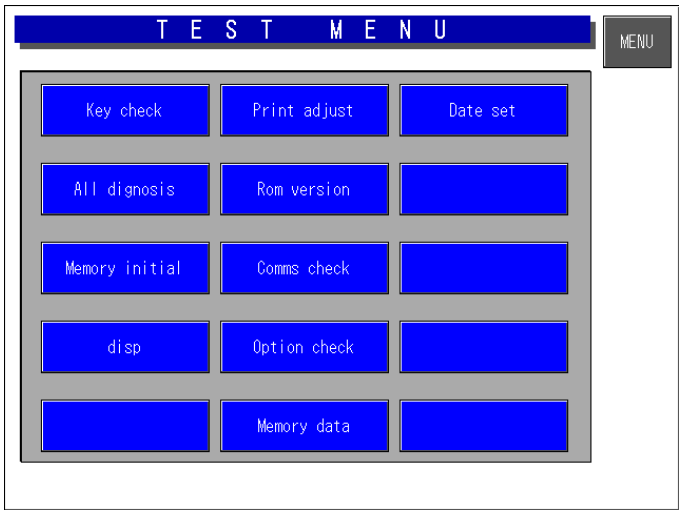
TEST MODE

3.1 START UP OF TEST MODE



● **How to start Test Mode**
Enter [4][9][5][3][4][4] and touch [TEST MODE] to start the Test Menu.



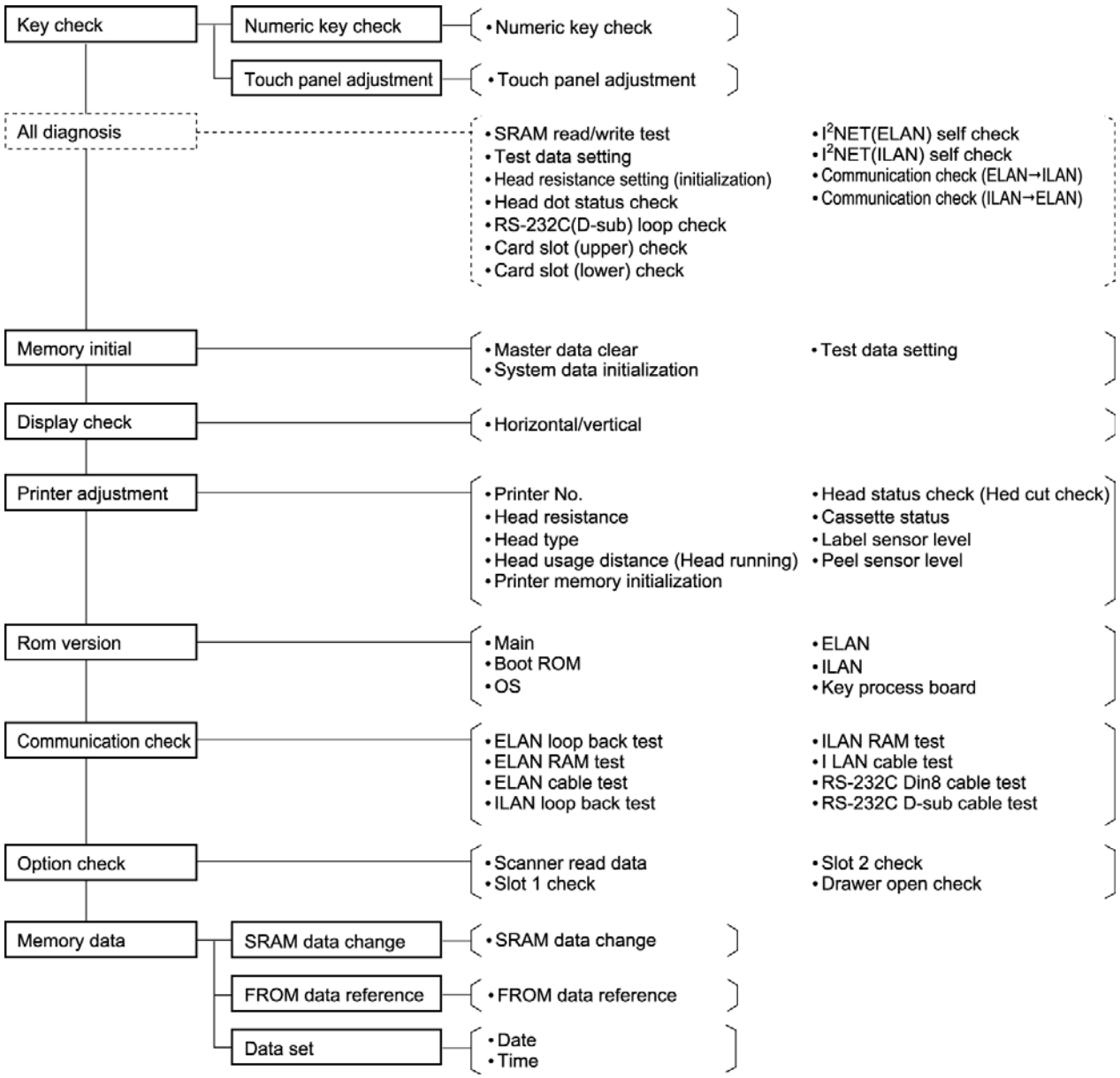


● **How to advance each item**
Press the touch key of the item to be selected on the screen.

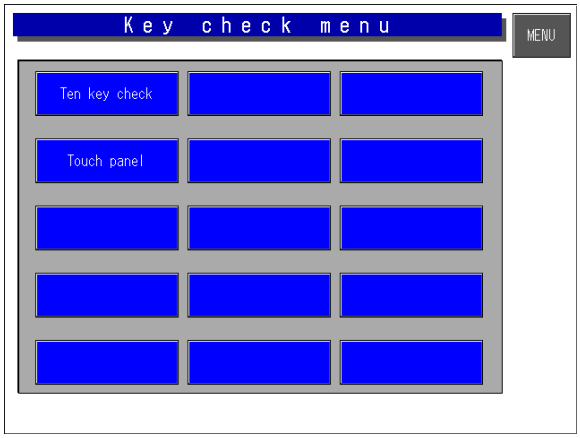
● **How to return to the previous menu**
Touch the [MENU] key to return the display to the previous menu screen.

3.2 TEST MODE HIERARCHICAL CHART

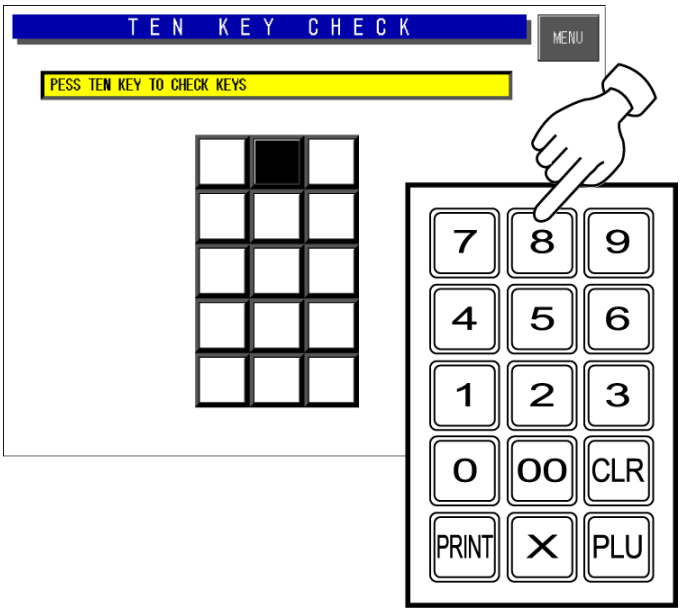
CAUTION	The modes (All-diagnostic and Time/Date setting) described in the dotted line are only for the product check in the factory.



3.3 KEY CHECK



1. Numeric Key Check



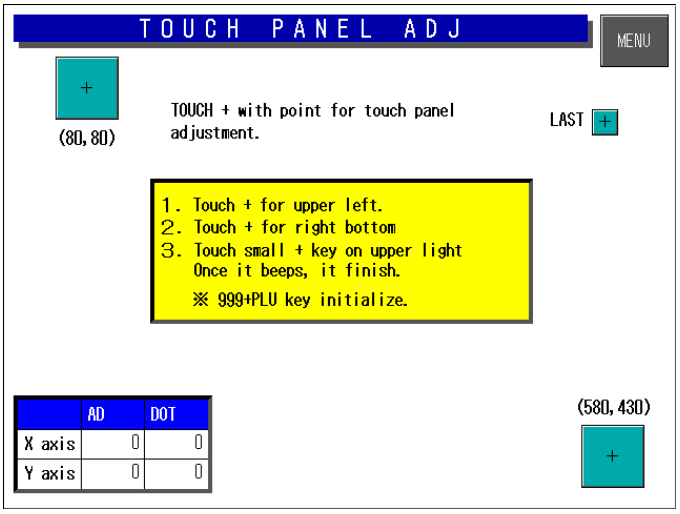
● **Operation**

Press each numeric key, then the corresponding screen key displays in reverse.

The left screen is an example when [8] key is pressed.

After a while, the reversed key on the screen is cleared.

2. Touch Panel Adjustment



● **Operation**

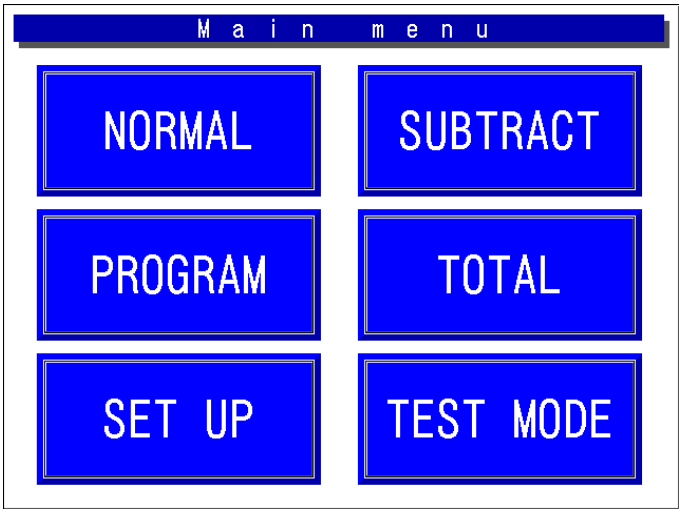
Operate the machine according to the explanation on the screen.

◇**Purpose**

Memorize the positions of the color liquid crystal screen and the touch panel in the main body memory.

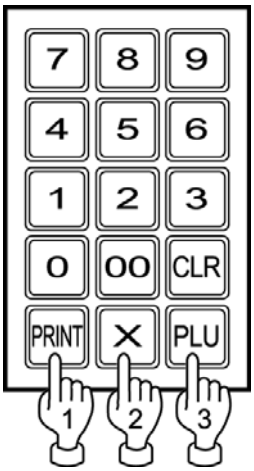
If this is poorly adjusted, the screen key position is misaligned.

Coordinates of the inputted touch panel are displayed at the bottom left corner of the screen.



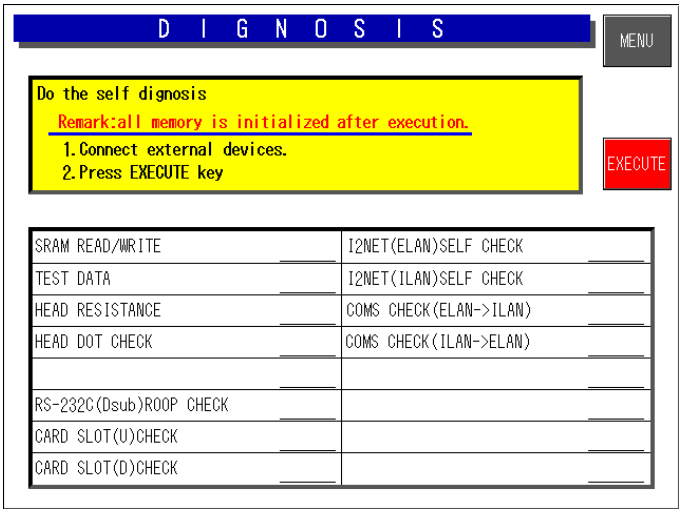
MEMO

If the screen key position misalignment occurs, perform the following key operation on the operating console while in the Main Menu to enter this mode.



3.4 ALL DIAGNOSIS

CAUTION	This mode is used to test the machine in the factory. Note that all memories will be initialized when this mode is used.

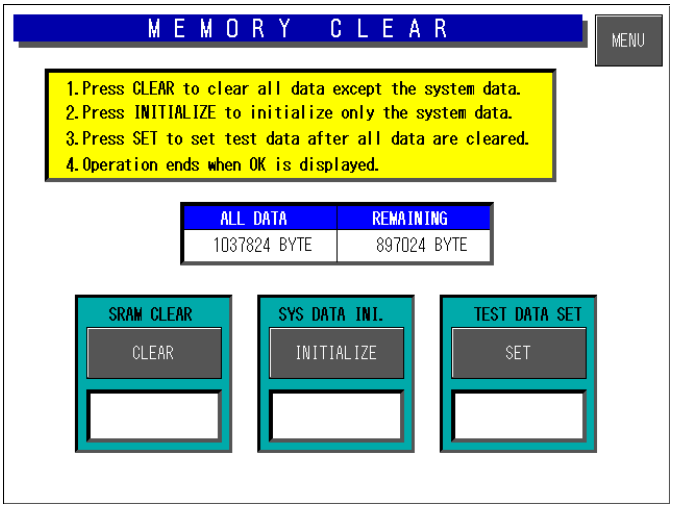


● **Operation**

When the [EXECUTE] key is touched, each test is carried out one by one.

Diagnostic Items	Operation Contents	Measures under Abnormal Conditions
SRAM read/write test	SRAM reading and writing test	(1) Defect of P-910
Test data setting	Master registration for each test	The display shows abnormality.
Head resistance setting (initialization)	Automatic setting of head resistance	(1) Defect of thermal head (2) Defect of P-909 (3) Defect of harness “C2” thermal head (63-5585-04)
Head dot status check	Thermal head failure check	(1) Defect of thermal head (2) Defect of P-909 (3) Defect of harness “C2” thermal head (63-5585-04)
RS-232C (D-sub) loop check	RS-232C hardware check * The check cable is required.	(1) Defect of P-910 (2) Defect of P-907 (3) Defect of harness “C2” RS-232C (63-8459-20)
Card slot (upper) check	PCMCIA (upper) hardware check * The check cable is required.	(1) Defect of P-910
Card slot (lower) check	PCMCIA (lower) hardware check * The check cable is required.	(1) Defect of P-910
I^2NET (ELAN) self check	I^2NET (ELAN) hardware check	(1) Defect of P-910
I^2NET (ILAN) self check	I^2NET (ILAN) hardware check	(1) Defect of P-910
Communication check (ELAN→ILAN)	I^2NET loopback hardware check * The check cable is required.	(1) Defect of P-910
Communication check (ILAN→ELAN)	I^2NET loopback hardware check * The check cable is required.	(1) Defect of P-910

3.5 MEMORY CLEAR



● **Operation**

When one of [CLEAR] [INITIALIZE] [SET] keys is touched, each processing is carried out.

When the processing ends normally, "OK" is displayed.

* If an error occurs, the defect of P-910 is assumed.

◇**SRAM Clear**

All masters are cleared except the system master.

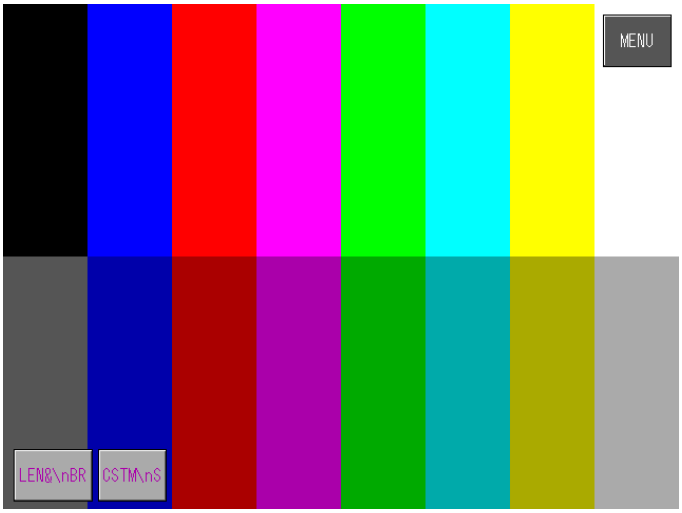
◇**System Data Initialization**

The system master is returned to the initial values, and the system data is set to the initial values.

◇**Test Data Setting**

The master for test is set.

3.6 DISPLAY CHECK

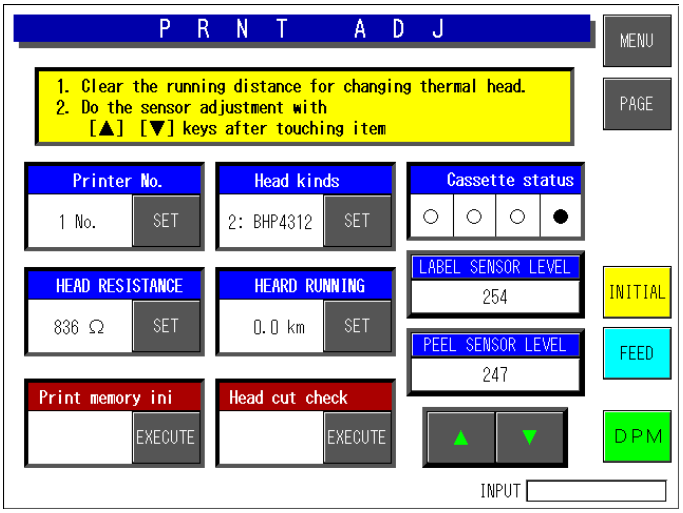


● **Operation**
When one of [LENS&-BR] or [CSTM-ns] key is touched, each test is carried out.

◇**Horizontal/Vertical**
Perform a visual check to confirm whether there is any missing dot on the operator display.

◇**Rear Display**
Perform a visual check to confirm whether there is any missing dot on the customer display.

3.7 PRINTER ADJUSTMENT



● Operation

Perform each setting related to the printer.

◇Printer

Printer number: “1” (fixed).

◇Head Resistance

There are two setting methods:

<Method 1>

When the [SET] key of the Head Resistance is touched, values set to the thermal head will be read and stored in the in the memory of the main body.

<Method 2>

Read the resistance described on the thermal head, and touch the [SET] key after entering the value using the numeric keys.

Enter the thermal head resistance → [SET]

◆Head Type

2: BHP4312 (fixed).

[2] → [SET]

0: LH4114
1: LH4116
2: BHP4312

Designed In consideration of future expansion.

◆Printer Usage Distance

Enter the head usage distance in the unit of 0.1 km. → [SET]

◆Printer Memory Initialization

The following five items are executed.

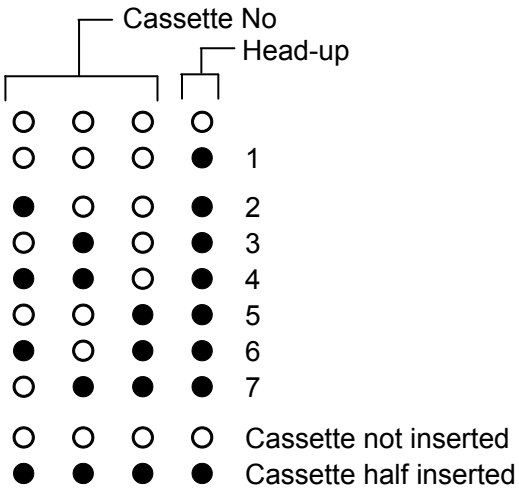
- Automatic setting of head resistance
- Head type (Set it to 2: BHP4312)
- Head usage distance (Set it to “0.0” km.)
- Initialization of the label sensor level
- Initialization of the peel sensor level

◆Head Status Check

The head failure check is executed.

The following causes are assumed when an error is displayed.

(1) Defect of the thermal head
(2) Defect of the P-909 board
(3) Defect of the harness “C2” thermal head



● **Cassette Status**

The contents detected by the cassette sensor are displayed. The ● seals are affixed to the cassette to shield the light.

<Cassette No.>

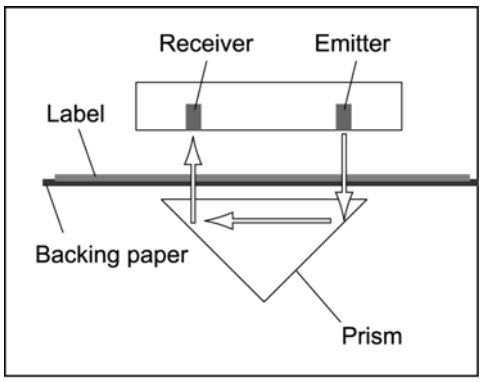
Three sensors are in the state of light acceptance at the cassette “1”.

Seven cassette types (1-7) are available.

◆ **Label Sensor Level**

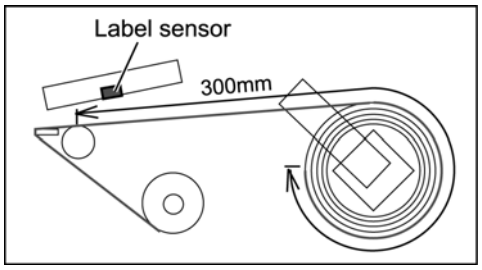
1. Label sensor (transmission sensor) mechanism

The label sensor has a mechanism as shown in the right figure.
The light emitted from the emitter
Passing the label and reflects the light in 90 degrees→90 degrees (180 degrees) with the prism.
The reflected light passes the label again, and receives the light at the receiver.

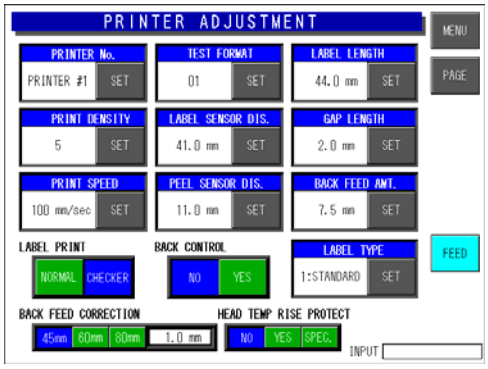


2. Adjustment of the label sensor

(1) Peel off approximately 10 labels (approx. 30 cm) so that the label sensor can detect the label backing paper only, and insert the cassette. Do not care even if you rewind the paper when it is already wound up.



(2) Touch the [FEED] key twice to stretch the backing paper.
(3) The data field changes to green when the [LABEL SENSOR LEVEL] button is touched.
(4) Touch [▲] [▼] keys to make the numeric value around “120”. This value is assumed as (Numeric value A).
(5) Touch the [FEED] key several times again to issue one label. At this time, the label sensor is detecting the label and the backing paper. This value is assumed as (Numeric value B).
(6) When the result of (Numeric value A) - (Numeric value B) is “60” or more, the adjustment is completed.
(Numeric value A) - (Numeric value B) ≥ 60
If the result is less than “60”, try to adjust from (1) again. Use the numeric value with (+10) added to the previous case.



MEMO

This machine does not have the VR (volume) for the sensibility adjustment.
The label sensor sensibility adjustment of the conventional model has been made by the VR (volume). However, software adjustment can be performed by adopting the DPM (digital potentiometer) with this machine. Therefore, the VR (volume) adjustment by is unnecessary.

◆ Peel Sensor Level

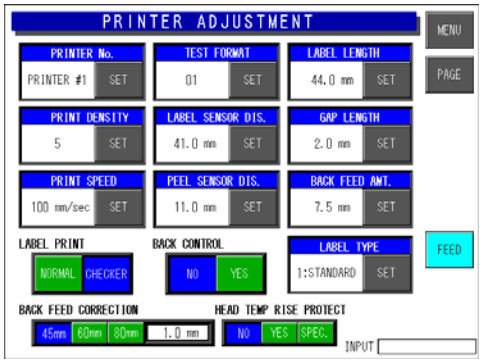
1. Adjustment of Peel Sensor

(1) Confirm that there is no label on the peel stand, and put into the state of light acceptance state.
(2) The data field changes to green when the [PEEL SENSOR LEVEL] button is touched.
(3) Touch [▲][▼] keys to make the numeric value around “100”.
(4) Touch the [FEED] key to issue one label.
At this time, confirm that the peel sensor is shielded by the label.
(5) Confirm that the numeric value of [PEEL SENSOR LEVEL] is “20” or less.

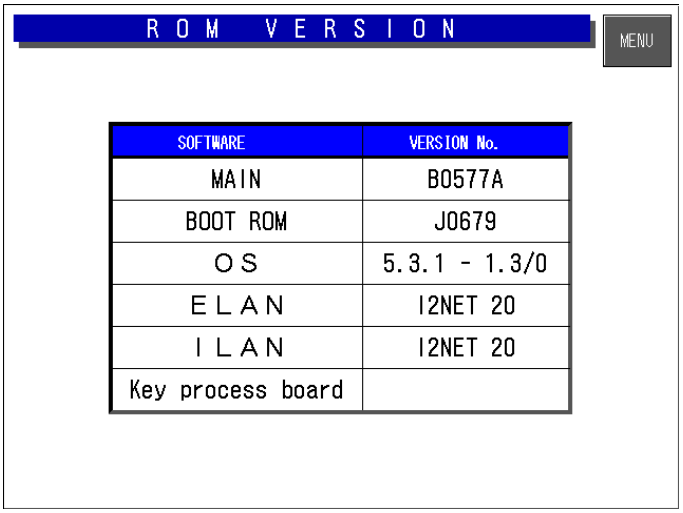
Note: If the value is more than “20”, adjust the optical axis by bending the steel plate of the emitting sensor bracket.

◆Printer Adjustment

Touch the [PAGE] key, and set each item to perform test print. Press the [PRINT] key to check whether the printing is normal.



3.8 ROM VERSION

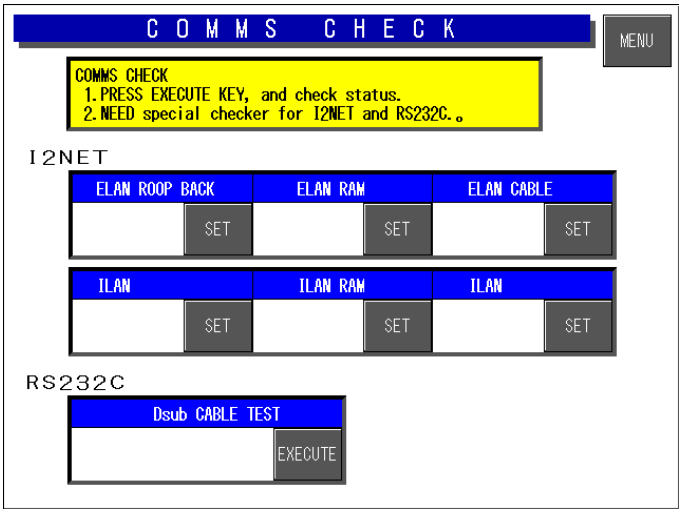


Screen Example

● **Operation**

Each software program can be confirmed on this screen.

3.9 COMMUNICATION CHECK

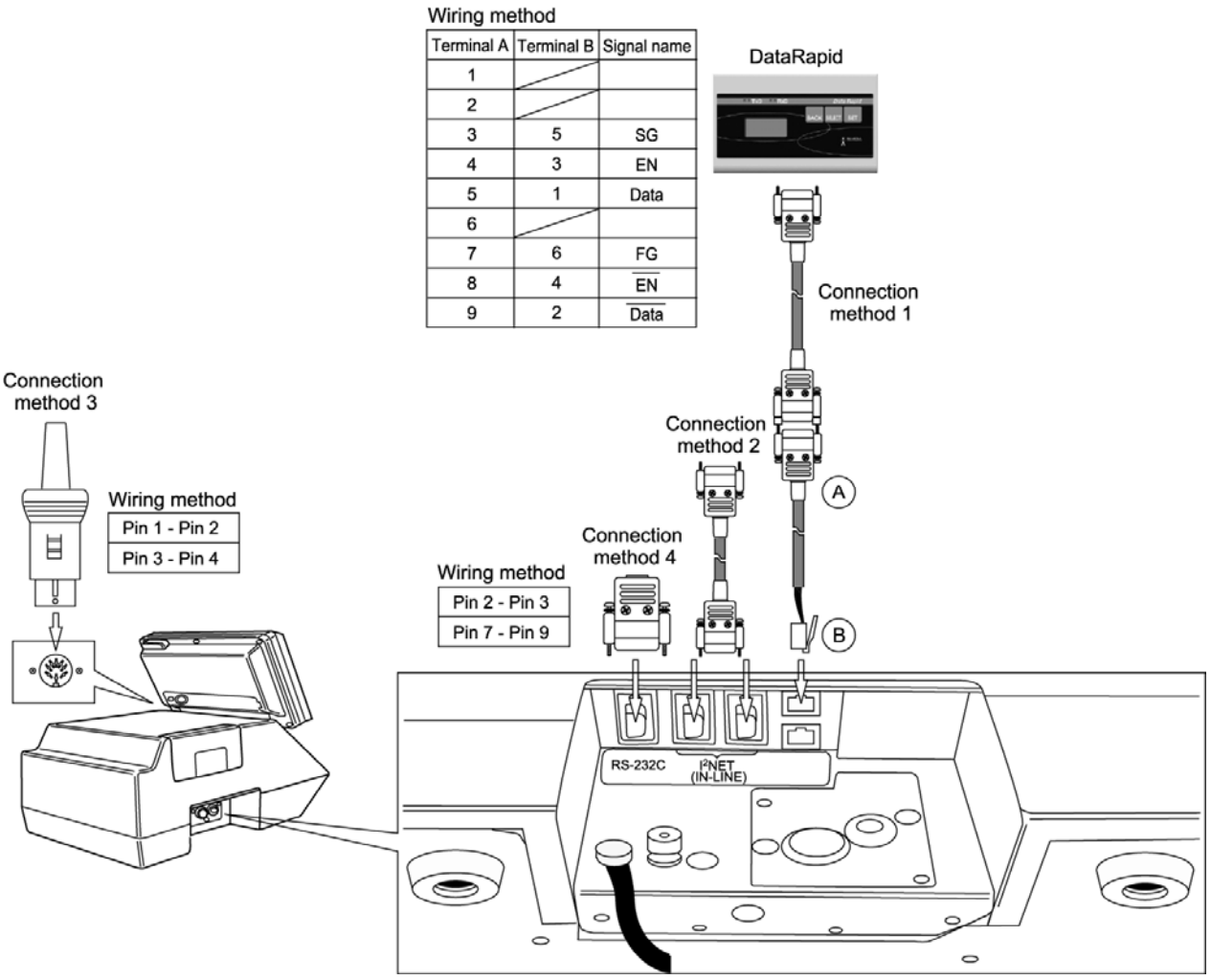


● **Operation**

Touch the [EXECUTE] key of the corresponding check part. Connect the cable with each cable test referring to each connection method (1-4).

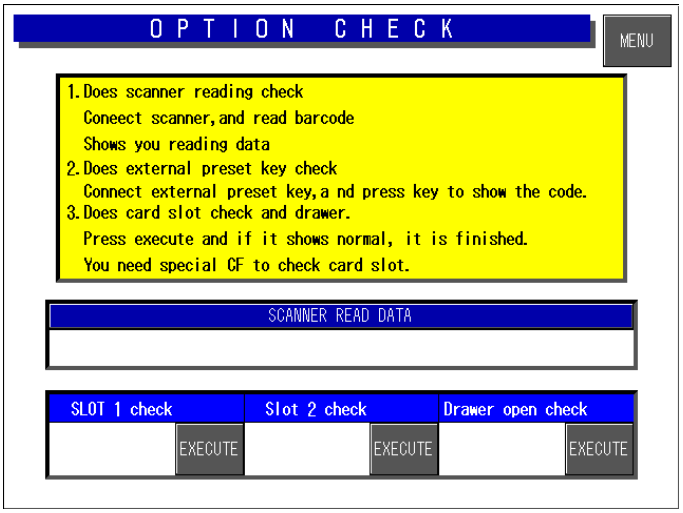
Wiring method

Terminal A	Terminal B	Signal name
1		
2		
3	5	SG
4	3	EN
5	1	Data
6		
7	6	FG
8	4	$\overline{\text{EN}}$
9	2	$\overline{\text{Data}}$



Check Items		Operation Contents	Measures under Abnormal Conditions
I^2NET	ELAN loopback test	Driver → receiver communication test	(1) Defect of P-910
	ELAN RAM test	Communication buffer read/write test	(1) Defect of P-910
	ELAN cable test	Main body → IF-21FD communication test (Refer to connection method 1)	(1) Defect of P-907 (2) Defect of P-910 (3) Defect of harness “C3” communication (63-8468-23)
	ILAN loopback test	Driver → receiver communication test	(1) Defect of P-910
	ILAN RAM test	Communication buffer read/write test	(1) Defect of P-910
	ILAN cable test	Main body → IF-21FD communication test (Refer to connection method 2)	(1) Defect of P-907 (2) Defect of P-910 (3) Defect of harness “C3” communication (63-8468-23)
RS-232C	D-sub cable test	D-sub (Refer to connection method 4)	(1) Defect of P-910 (2) Defect of P-907 (3) Defect of harness “C3” RS-232C (63-8459-20)

3.10 OPTION CHECK


OPTION CHECK
MENU
1.Does scanner reading check
Coneect scanner,and read barcode
Shows you reading data
2.Does external preset key check
Connect external preset key,a nd press key to show the code.
3.Does card slot check and drawer.
Press execute and if it shows normal, it is finished.
You need special CF to check card slot.
SCANNER READ DATA
SLOT 1 check
EXECUTE
Slot 2 check
EXECUTE
Drawer open check
EXECUTE

● **Operation**

Perform the operation test for each connected option.

<Scanner Read Data>

The result of reading the barcode is displayed.

<Slot 1 Check>

Insert the CF card into the slot 1, and touch the [EXECUTE] key.

<Slot 2 Check>

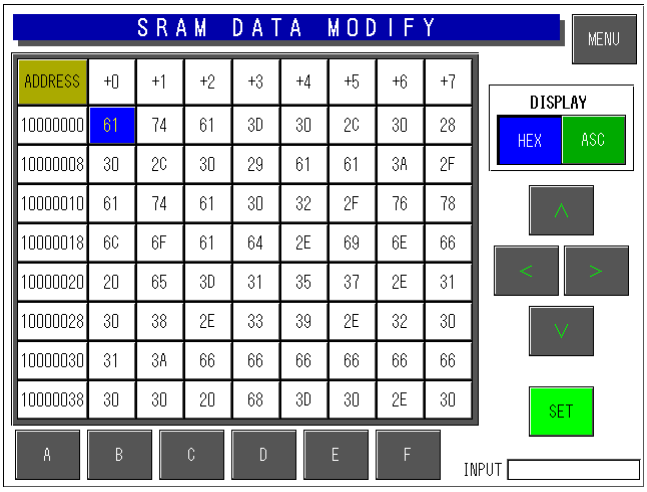
Insert the CF card into the slot 2, and touch the [EXECUTE] key.

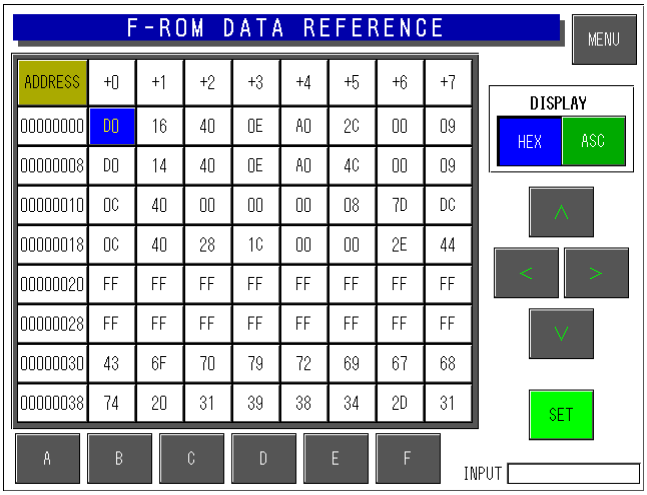
<Drawer Open Check>

Connect the drawer and touch the [EXECUTE] key to open the drawer.

3.11 MEMORY DATA

CAUTION Do not change the data. If the data is changed, the machine does not operate normally.

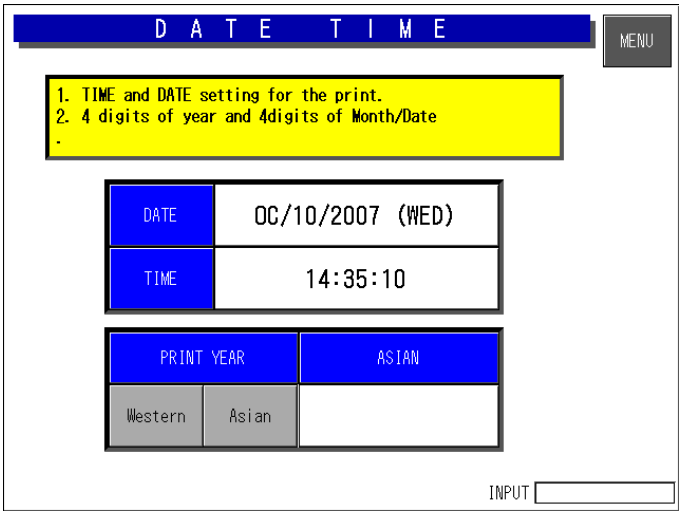




● **Operation**

SRAM and FROM data can be confirmed.

3.12 DATE SET



● **Operation**

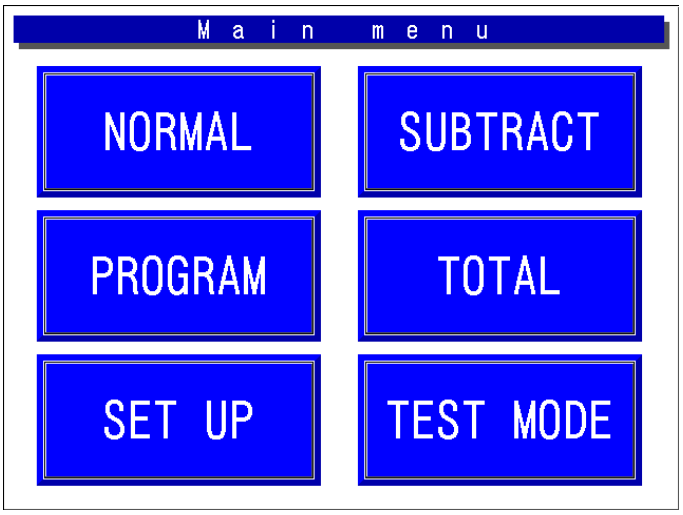
Same as the date/time setting of the setup mode. This mode is used for machine operation test at factory.

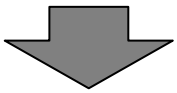
Date setting can also be performed in the Set Mode.

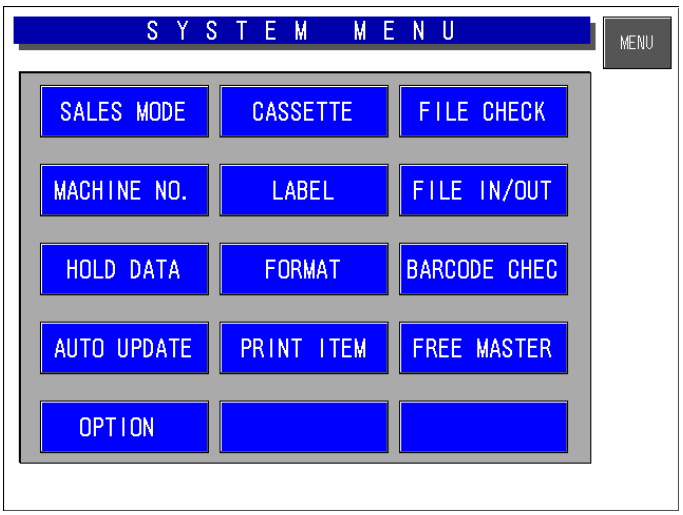
CHAPTER 4

SYSTEM SETTING MENU

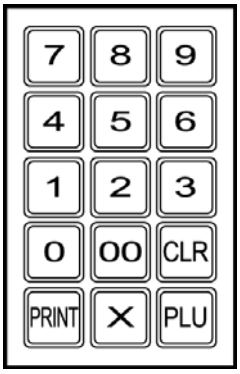
4.1 START UP OF SYSTEM SETTING MENU







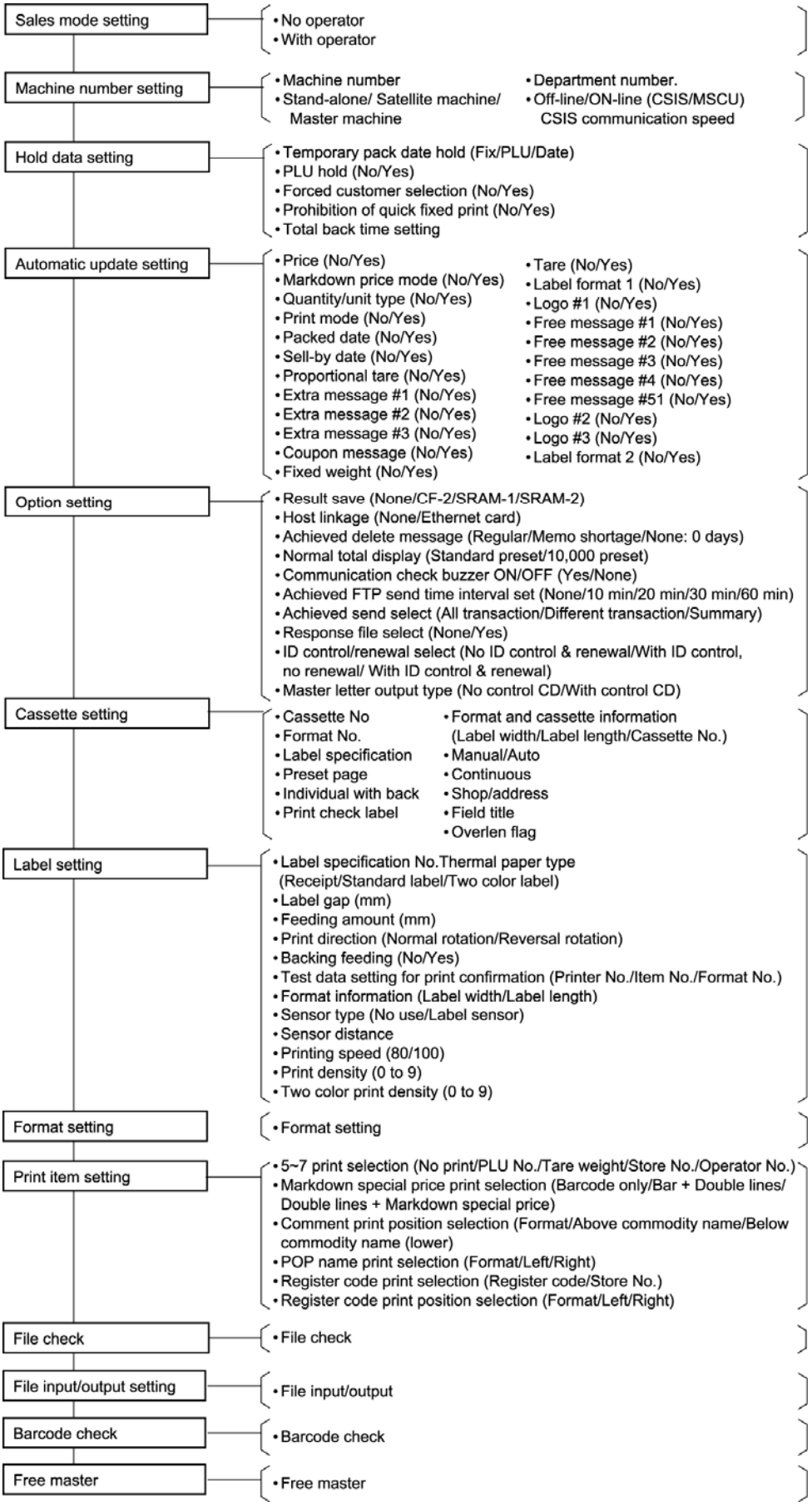
● **How to start System Setting Menu**
While in the Main Menu, enter [4][9][5][3][4][4] and press the [PLU] key on the operating console to enter the System Setting Menu.



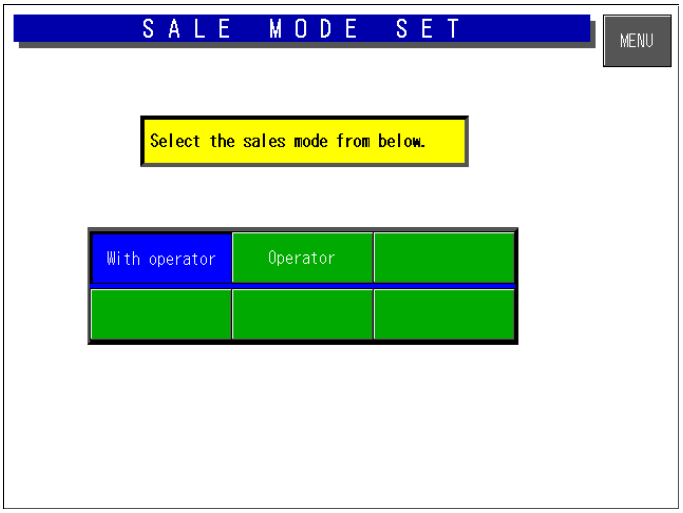
● **How to advance each item**
Press the touch key of the item you want to select.

● **How to return to the previous menu**
Touch the [MENU] key to return the display to the previous menu.

4.2 HIERARCHICAL CHART OF SYSTEM SETTING MENU


Sales mode setting
• No operator
• With operator
Machine number setting
• Machine number
• Stand-alone/ Satellite machine/ Master machine
• Department number.
• Off-line/ON-line (CSIS/MSCU) CSIS communication speed
Hold data setting
• Temporary pack date hold (Fix/PLU/Date)
• PLU hold (No/Yes)
• Forced customer selection (No/Yes)
• Prohibition of quick fixed print (No/Yes)
• Total back time setting
Automatic update setting
• Price (No/Yes)
• Markdown price mode (No/Yes)
• Quantity/unit type (No/Yes)
• Print mode (No/Yes)
• Packed date (No/Yes)
• Sell-by date (No/Yes)
• Proportional tare (No/Yes)
• Extra message #1 (No/Yes)
• Extra message #2 (No/Yes)
• Extra message #3 (No/Yes)
• Coupon message (No/Yes)
• Fixed weight (No/Yes)
• Tare (No/Yes)
• Label format 1 (No/Yes)
• Logo #1 (No/Yes)
• Free message #1 (No/Yes)
• Free message #2 (No/Yes)
• Free message #3 (No/Yes)
• Free message #4 (No/Yes)
• Free message #51 (No/Yes)
• Logo #2 (No/Yes)
• Logo #3 (No/Yes)
• Label format 2 (No/Yes)
Option setting
• Result save (None/CF-2/SRAM-1/SRAM-2)
• Host linkage (None/Ethernet card)
• Achieved delete message (Regular/Memo shortage/None: 0 days)
• Normal total display (Standard preset/10,000 preset)
• Communication check buzzer ON/OFF (Yes/None)
• Achieved FTP send time interval set (None/10 min/20 min/30 min/60 min)
• Achieved send select (All transaction/Different transaction/Summary)
• Response file select (None/Yes)
• ID control/renewal select (No ID control & renewal/With ID control, no renewal/ With ID control & renewal)
• Master letter output type (No control CD/With control CD)
Cassette setting
• Cassette No
• Format No.
• Label specification
• Preset page
• Individual with back
• Print check label
• Format and cassette information (Label width/Label length/Cassette No.)
• Manual/Auto
• Continuous
• Shop/address
• Field title
• Overlen flag
Label setting
• Label specification No.Thermal paper type (Receipt/Standard label/Two color label)
• Label gap (mm)
• Feeding amount (mm)
• Print direction (Normal rotation/Reversal rotation)
• Backing feeding (No/Yes)
• Test data setting for print confirmation (Printer No./Item No./Format No.)
• Format information (Label width/Label length)
• Sensor type (No use/Label sensor)
• Sensor distance
• Printing speed (80/100)
• Print density (0 to 9)
• Two color print density (0 to 9)
Format setting
• Format setting
Print item setting
• 5~7 print selection (No print/PLU No./Tare weight/Store No./Operator No.)
• Markdown special price print selection (Barcode only/Bar + Double lines/ Double lines + Markdown special price)
• Comment print position selection (Format/Above commodity name/Below commodity name (lower)
• POP name print selection (Format/Left/Right)
• Register code print selection (Register code/Store No.)
• Register code print position selection (Format/Left/Right)
File check
• File check
File input/output setting
• File input/output
Barcode check
• Barcode check
Free master
• Free master

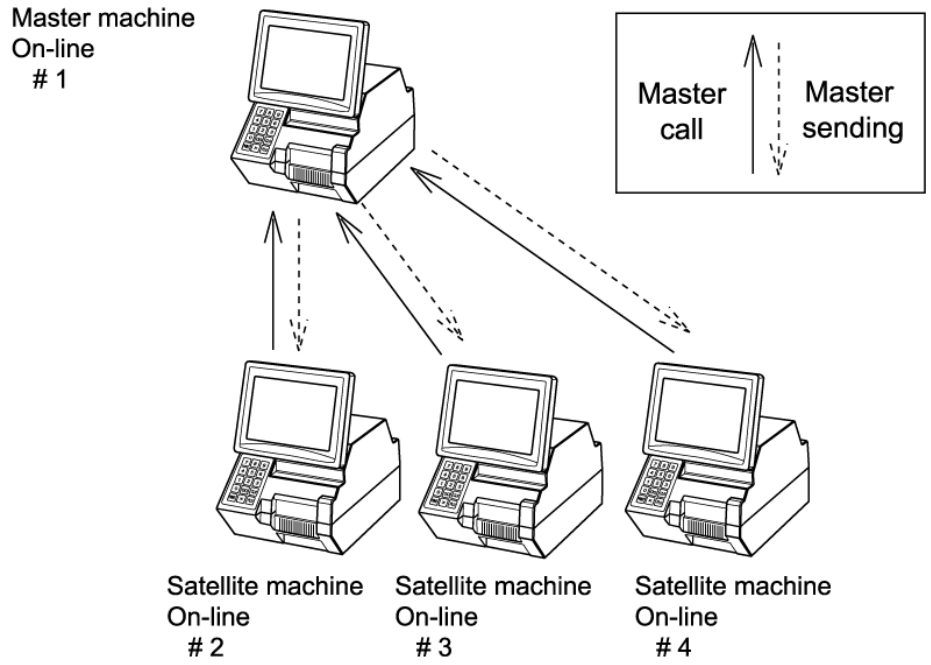
4.3 SALE MODE SETTING



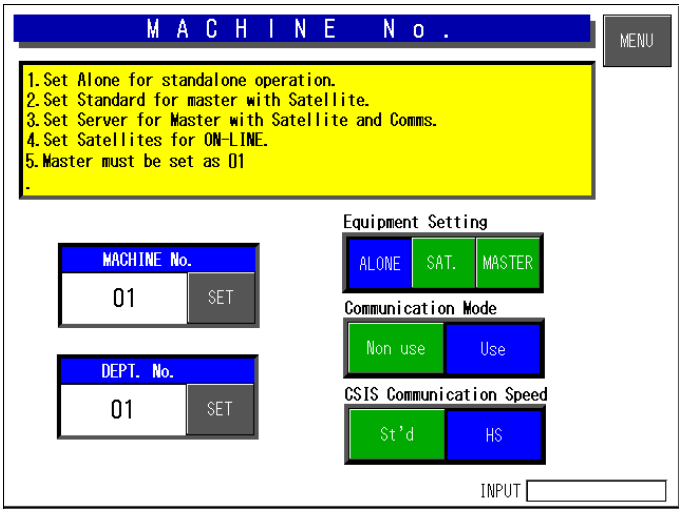
● **Operation**

Touch to select one of the keys to set whether the operator system is used or not.

◆No operator/With operator



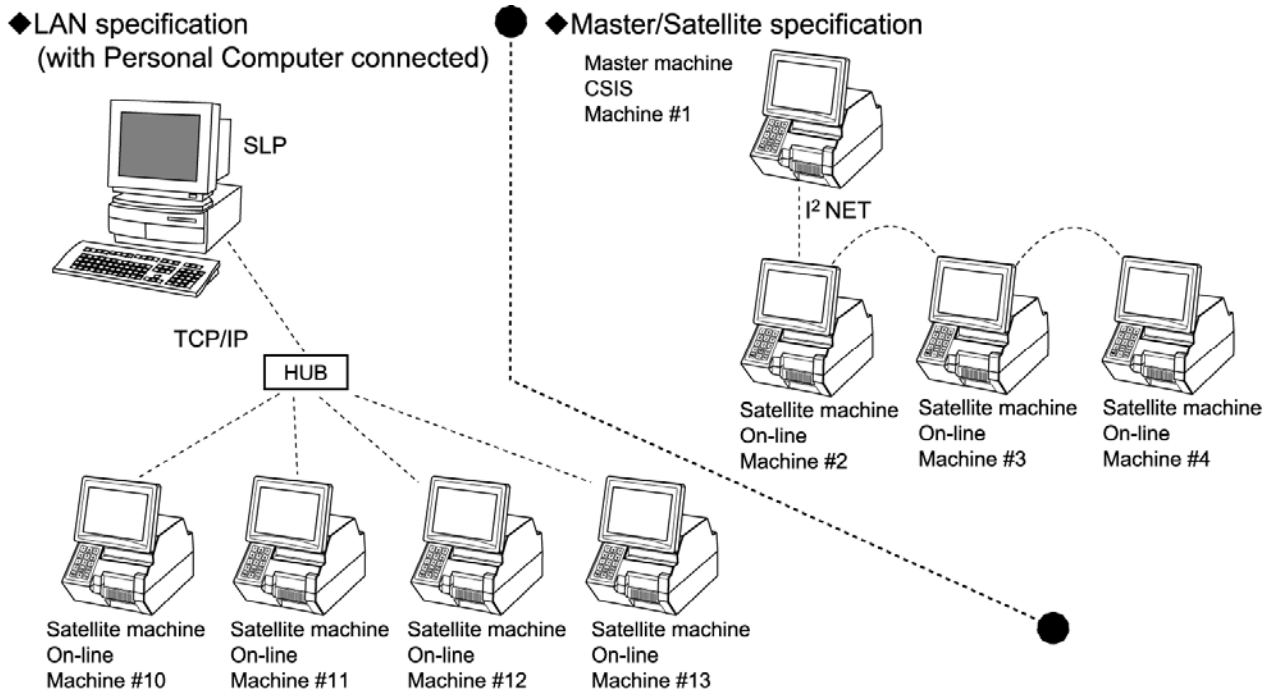
4.4 MACHINE NUMBER SETTING



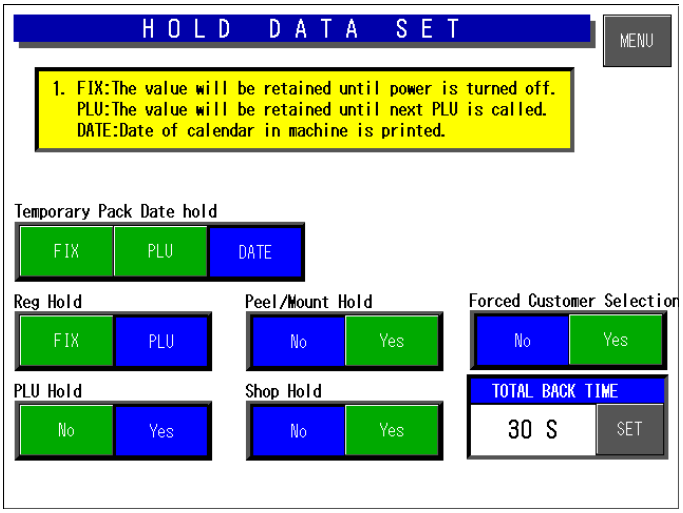
Perform settings suitable for the system referring to the figure below.
The department number is used when managing the master for each department with the personal computer connected (Store in-line specification).

● **Selection**
Touch one of the keys to select the desired function.

● **Setting**
Enter the numeric value and touch the SET key.



4.5 HOLD DATA SETTING



These settings are not used because they are used in Cash Register mode.

● **Selection**
Touch one of the keys to select the desired function.

● **Setting**
Enter the numeric value and touch the SET key.

<Temporary Pack Date Hold>

[FIX]
After the power supply is turned ON, the clock date is printed. The date is maintained and printed when the pack date is changed.

[PLU]
The clock date and time at the time when the commodity is called is printed. When a temporary change is made, the changed date and time are printed. The date and time return the clock date and time when the next commodity is called.

[DATE]
The clock date and time are printed at the time when a label is issued.

<Reg hold>

[No]
The register code is not held.

[Yes]
The register code is held.

<PLU hold>

[No]
The PLU name is not held after the print ends in the manual mode.

[Yes]
The PLU name is held for the called PLU after the print ends.

<Forced customer selection>

[No]
Entry of a customer data is not forced.

[Yes]
Entry of a customer data is forced.

<Peel/mount hold>

[No]
Label issuing condition either peeled off or with backing paper is not held.

[Yes]
Label issuing condition either peeled off or with backing paper is held.

<Prohibition of quick fixed print>

[No]

Fixed price label issue is not prohibited at zero point.

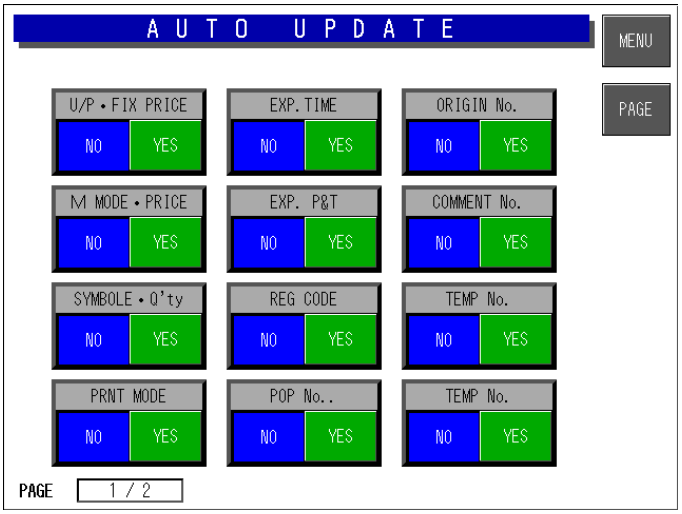
[Yes]

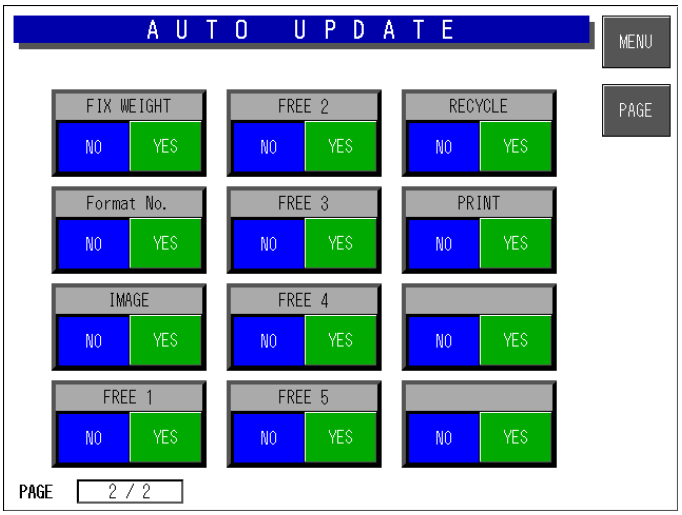
Fixed price label issue is prohibited at zero point

<Total back time>

Timeout period setting for changing from the subtotal screen to the normal screen.

4.6 AUTOMATIC UPDATE SETTING





There are two pages for setting the automatic program. To change the page, touch the [PAGE] key.

● **Selection**

Touch one of the keys to select the desired function.

[No]

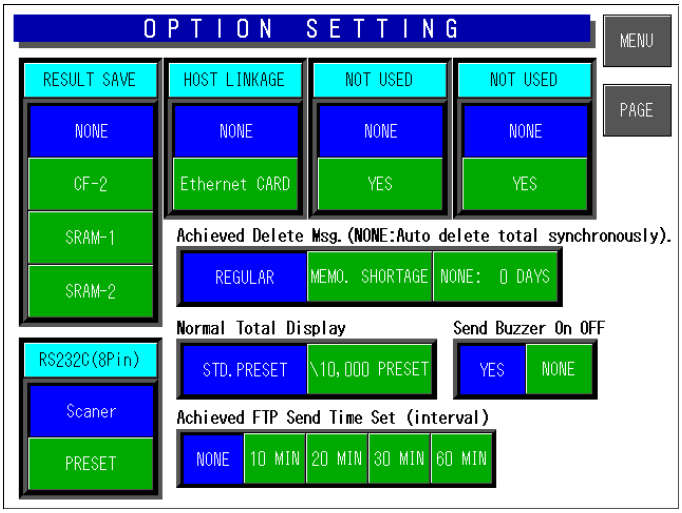
The data which is temporarily changed in the operation mode is not reflected in the PLU master.

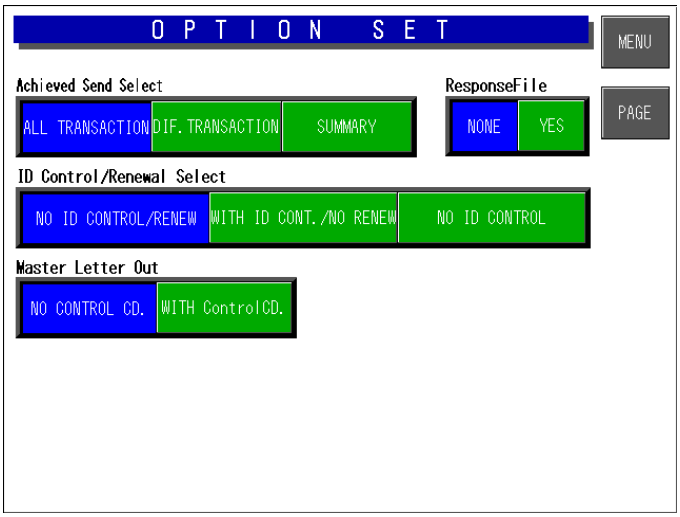
[Yes]

The PLU master is updated automatically with the data temporarily changed in the operation mode.

When the RAM is cleared, everything is set to "No".

4.7 OPTION SETTING





There are two pages for setting the options. To change the page, touch the [PAGE] key.

● **Selection**
Touch one of the keys for each option to select the desired function.

<RESULT SAVE>
Set a medium to save the result in the CSV format.

[NONE] Do not save.
[CF-2] Insert the CF card into the bottom slot to save.
[SRAM-1] Insert the S-RAM into the upper slot to save.
[SRAM-2] Insert the S-RAM into the bottom slot to save.

<HOST LINKAGE>
NONE: No linkage
Ethernet CARD: Linking to PC via Ethernet

<Achieved Delete Msg.>
REGULAR: Displayed at normal mode start. When there is record other than today's, a message is displayed.
MEMO. SHORTAGE: Displayed before memory becomes full.
NONE: Daily total is automatically deleted.

<Normal Total Display>

STD.PRESET : Standard preset

¥10.000 PRESET : Preset for ten thousand Yen ticket

<Send Buzzer On OFF>

When receiving master from PC or performing master maintenance, one of the following takes place.

YES: Buzzer sounds
NO: No buzzer sounds

<Achieved FTP Send Time Set>

Set interval for record sending FTP.

[RS-232C(8Pin)]
Use this to connect a scanner.
[PRESET]
Select this to connect a preset key.

<Achieved Send Select>

[ALL TRANSACTION]:
All transaction data
[DIF.TRANSACTION]
Differential transaction data
[SUMMARY]
Summary data

<ResponseFile>

Response telegraphic message

NONE: Do not add any control code.
[WITH ControlCD.]
Add control code.

<ID Control/Renewal Select>

Select a header unit of a CSV file.

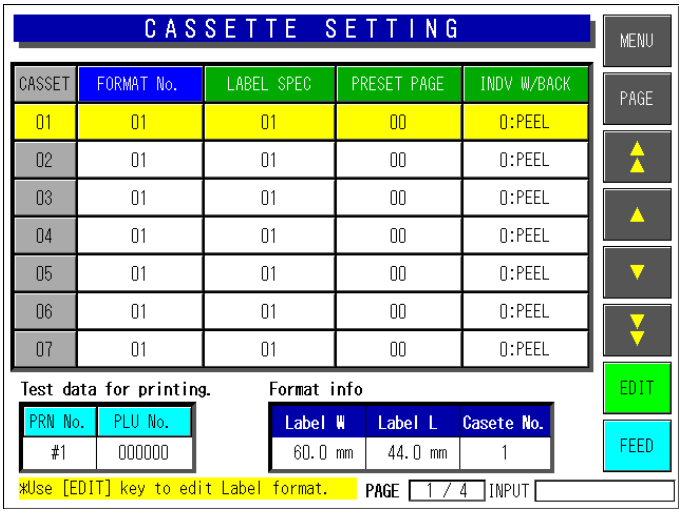
[NO ID CONTROL/RENEW]
Do not use a control code ID.
Add #0 to 2 to control the update of each data.
#0: Rewrite
#1: Prioritize the internal master and do not rewrite.
#2: Rewrite only when the internal master is 0 (NULL).
[WITH ID CONT./NO RENEW]
Identify CSV data with the control code ID.
[NO ID CONTROL]
Do not use the control code ID.

<Master Letter Out>

Decide whether to add the control code to a string of the CSV file to be output.

[NO CONTROL CD.]

4.8 CASSETTE SETTING

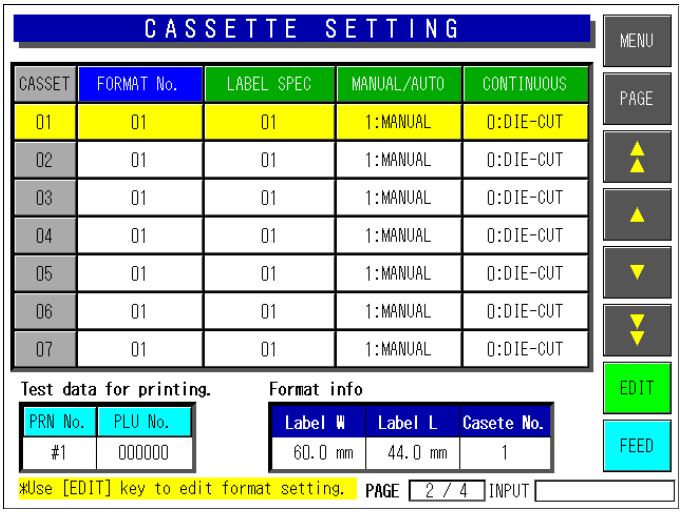


A maximum of 7 cassettes (1-7) is available. There are four pages for cassette settings. To change the page, touch the [PAGE] key.

<Format No.>
Set the label format number to be printed.

<Label Spec>
Set the label specifications.

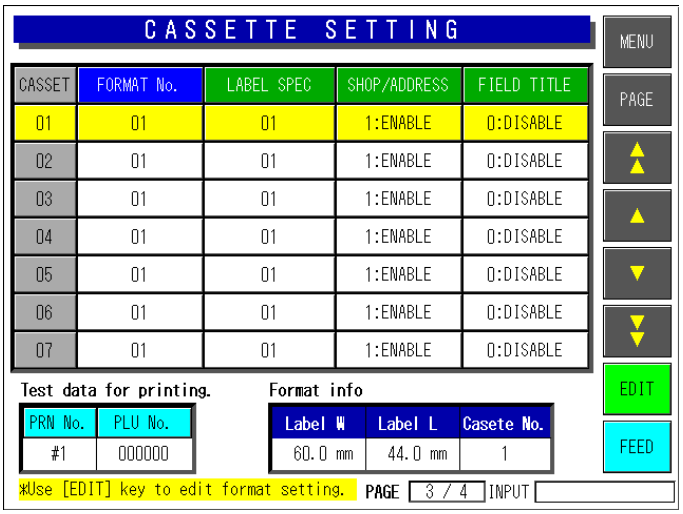
<Preset Page>
Set a page number of the default preset key.



<Individual/With backing paper>
Set whether the label is peeled off or issued with the backing paper.

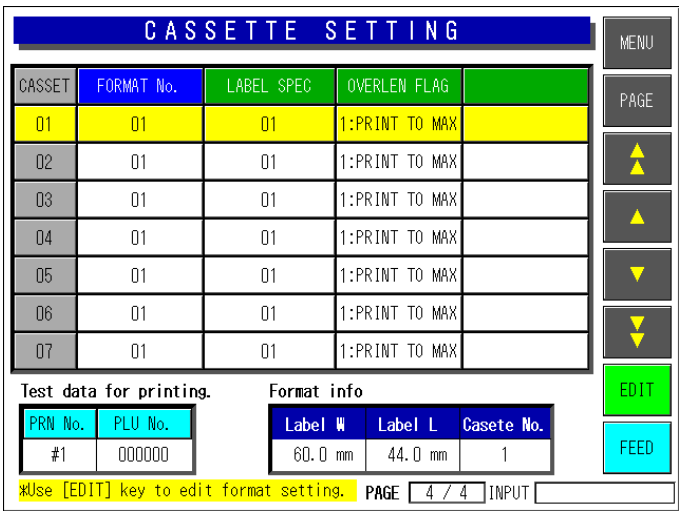
<Manual/Auto>
Set whether the label is issued manually or automatically as a default data.

<Continuous>
Set whether the die-cut or continuous label is used.



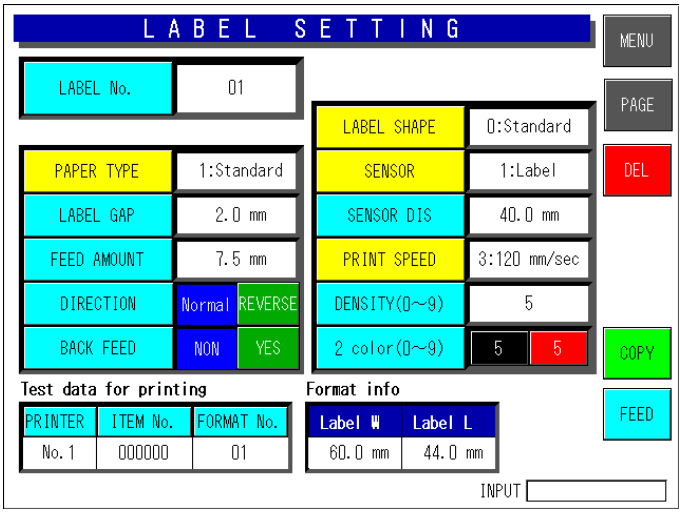
<Shop/Address>
Set whether the shop name and address are printed on the label or not.

<Field title>
Set whether or not to print the field title on the label.



<Over-length flag>
Set whether or not to print the text that exceeds the specified length.

4.9 LABEL SETTING



Set the printing conditions for each label number.

<Label No.>
Enter a desired label number (1-99) and touch the Label Spec. field.

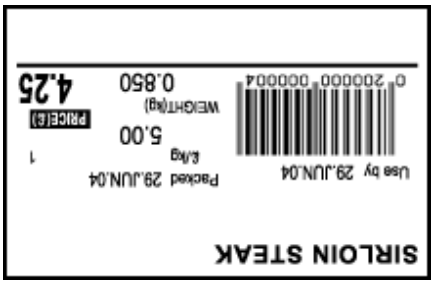
<Thermal paper type>
Select the desired paper type:
- Receipt
- Standard label (monochrome label)
- Incapable for two color label

<Label gap>
Set the label gap in units of 0.1mm. (Initial value: 2.0 mm)

<Preprint Feed>
Set the amount in the unit of 0.1mm. for the preprint feed. (Initial value: 7.5 mm)

<Print direction>

Normal direction



Reverse direction

<Back Feed>
Used with [No].

⚠CAUTION	IL-2000SA cannot be used with the back feeding ”Yes”. It is prepared in consideration of a future model development.

<Label Sensor>
Used with “Label Sensor”.
➔ Set as [No use] when the receipt is used and too thin to detect. The receipt end cannot be detected.

<Sensor Distance>
Set the print side line to be 7.5 mm from the label bottom.

<Print Speed>
Set [80/sec] or [100/sec].

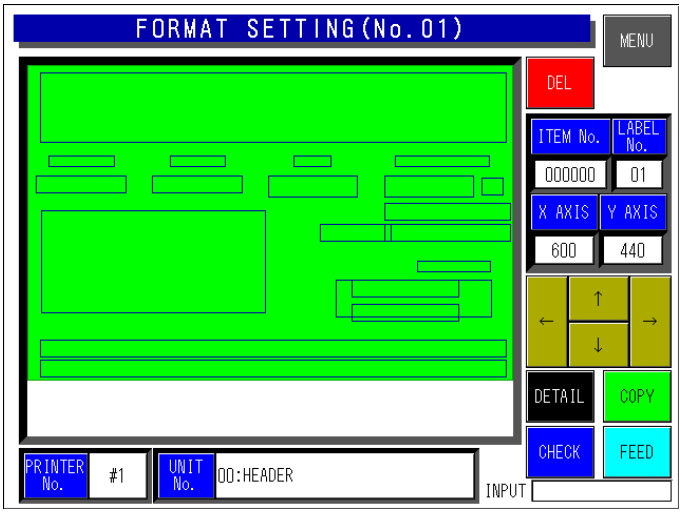
<Print density (0-9)>
Usually, the density is optimum at [5]. If the density is too thin, adjust the thermal head position.

<Two color print density (0-9)> (Optional)
Two color print is incapable with this machine.

<Item No>
Set an item number for test printing.

<Format Information>
The set information is displayed.

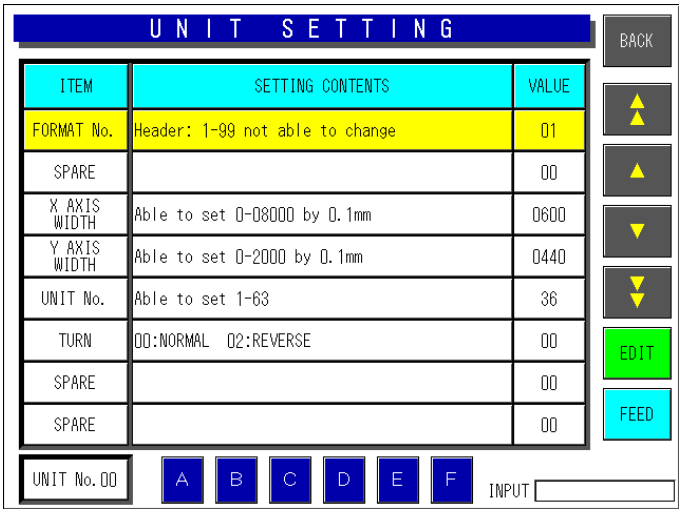
4.10 FORMAT SETTING



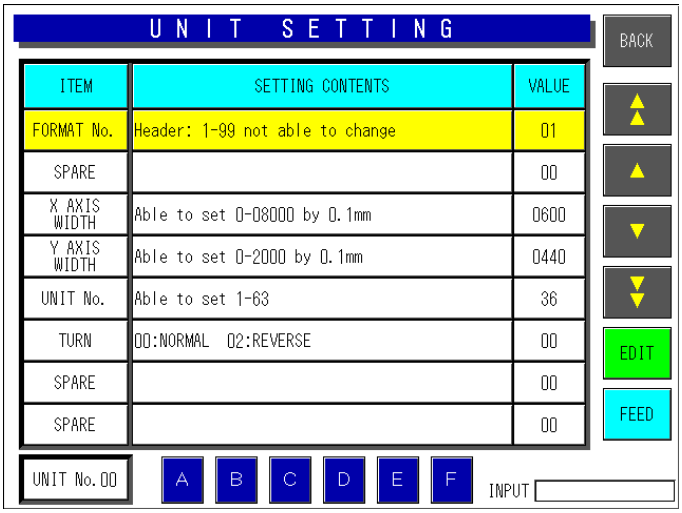
There are two pages for format setting.
To change the page, touch the [PAGE] key.

MEMO

This mode is used to create the label format.
➔ Refer to Appendix “Label Formatting” for more information.



4.11 UNIT SETTING

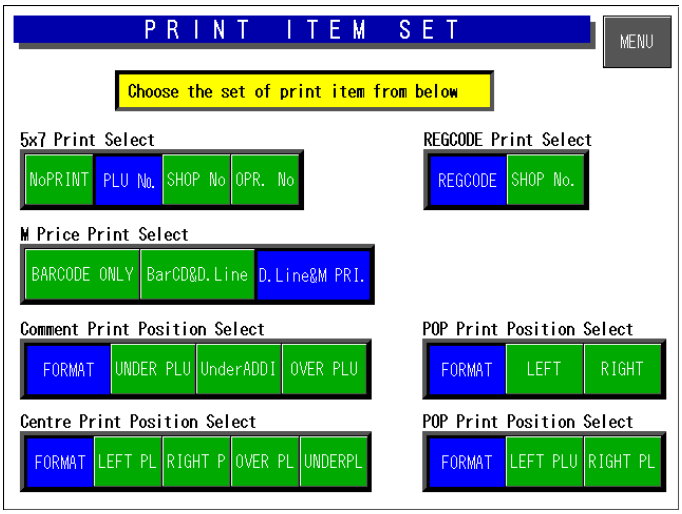


<Set Contents>
To edit a text of the Set Contents, touch the EDIT key to display the edit screen.

<Value>
To set or change the value, enter the desired numeric value and touch the corresponding field.

<Unit Number>
Touch to select one of A to F buttons for Unit No. 01.

4.12 PRINT SETTING



<5X7 Print Select>
Select the 5X7 print content.

<Register Code Select>
Decide whether to print either one of the register or the shop code.

<Markdown Price Print Select>
Select one of the three types.

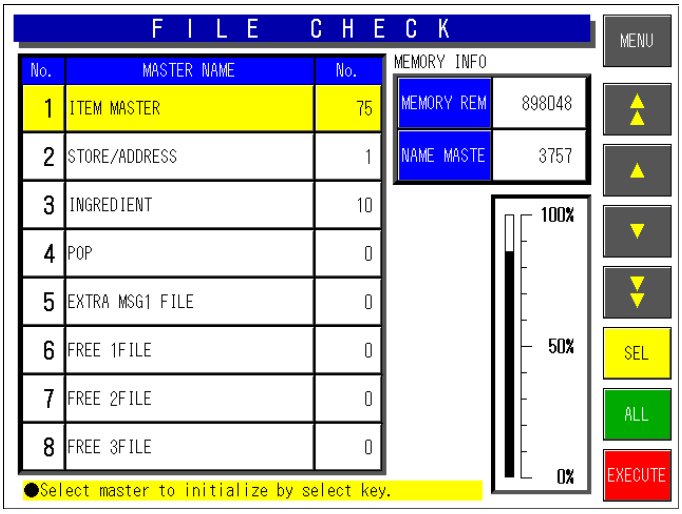
<Comment Print Position Select>
Select column of the comment.

<POP Print Position Select>
Select column of POP name.

<Register Code Print Position Select>
Select the register code print position.

CAUTION	Print position changes for each print position selection of Comment, POP name, and Register code. Note that the display position does not change.

4.13 FILE CHECK



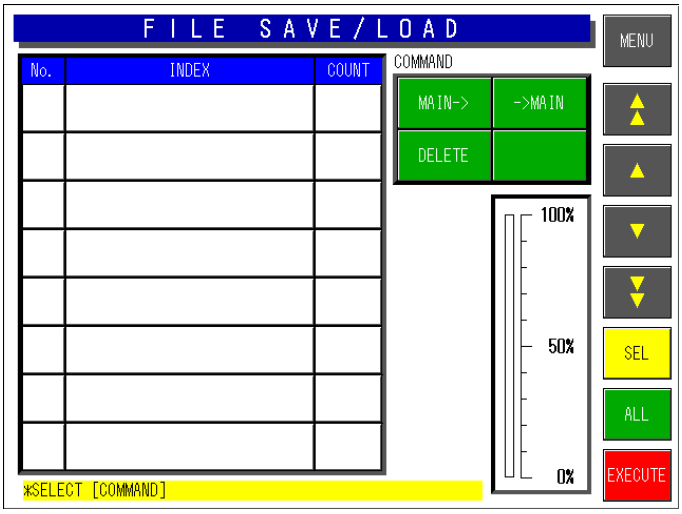
<Count>
The number of files is displayed.

<Master Initialization>
Select the master(s) by touching the one of [SELECT] and [SELECT ALL] key, and initialize by touching the [EXECUTE] key.

MEMO

Even if initialization is performed for all masters by touching [SELECT ALL] and [EXECUTE] keys, a part of basic master is written. Therefore, the PLU master conversion (number of files) does not become “0” because memory is partially used.

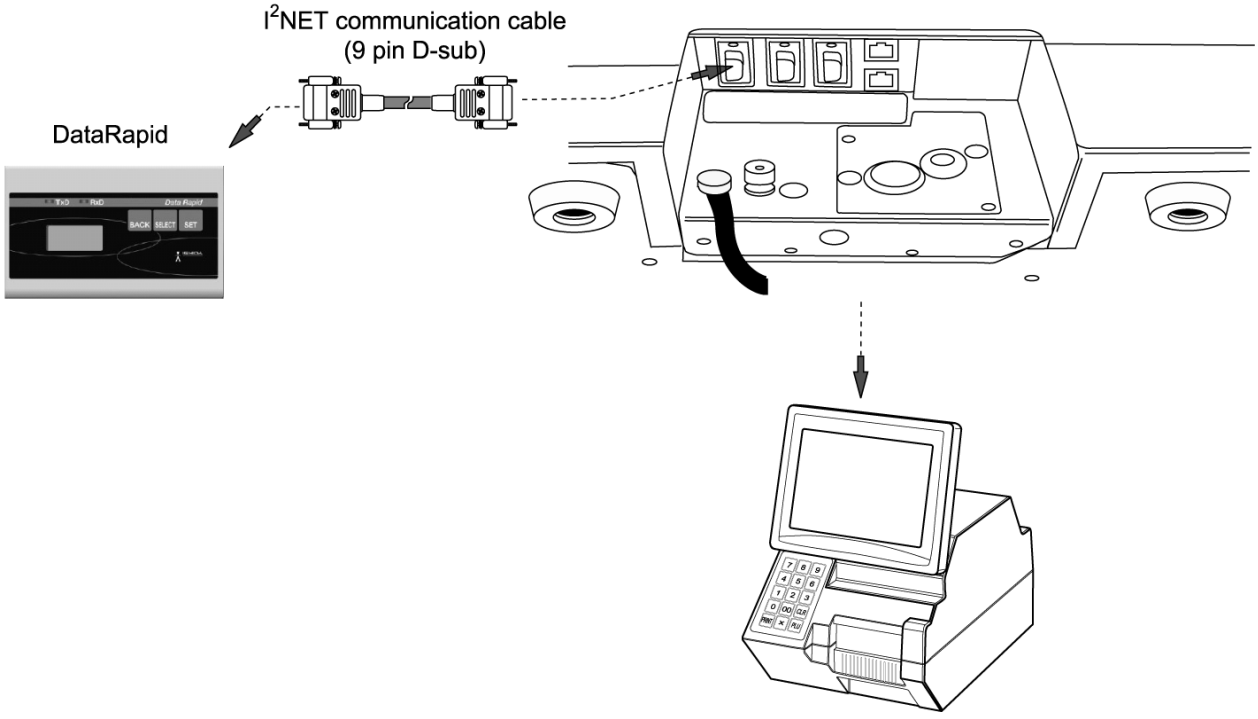
4.14 FILE SAVE/LOAD



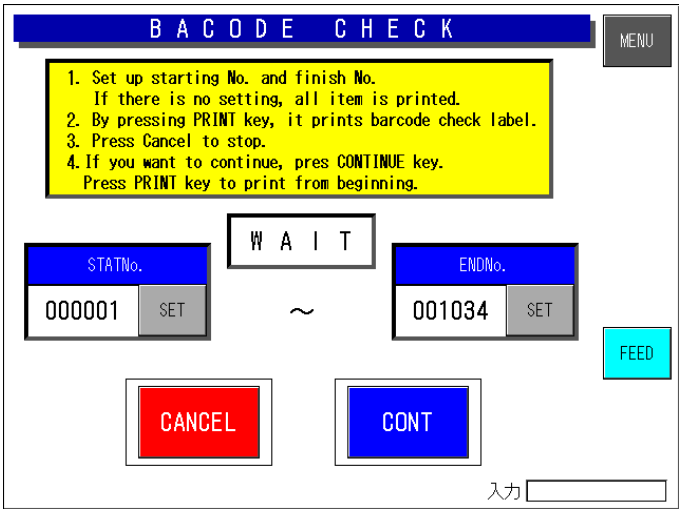
● **Connecting Method**
Connect the machine with the DataRapid referring to the figure below.

● **Select the processing.**

- **When writing the machine data in the DataRapid**
  Select [Main→].
- **When writing the DataRapid data in the machine**
  Select [→Main].
- **When deleting the files in the DataRapid**
  Select [DELETE].



4.15 BARCODE CHECK



● **Operation**
Touch the [BARCODE] key on the SYSTEM MENU screen.

● **Selection**
Enter the desired starting number and ending number.

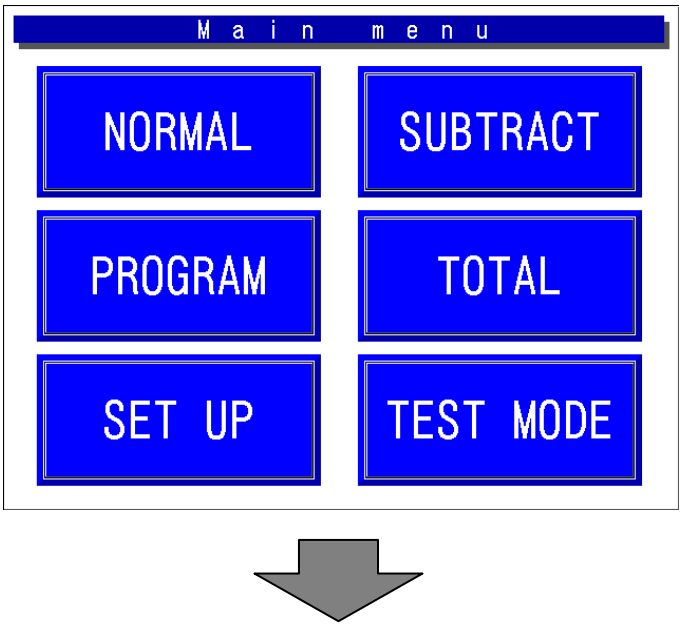
● **Print**
Touch the [PRINT] key to print a barcode check label. Touch the [CANCEL] key to stop printing.

● **Continue**
Touch the [CONTINUE] key to keep printing.

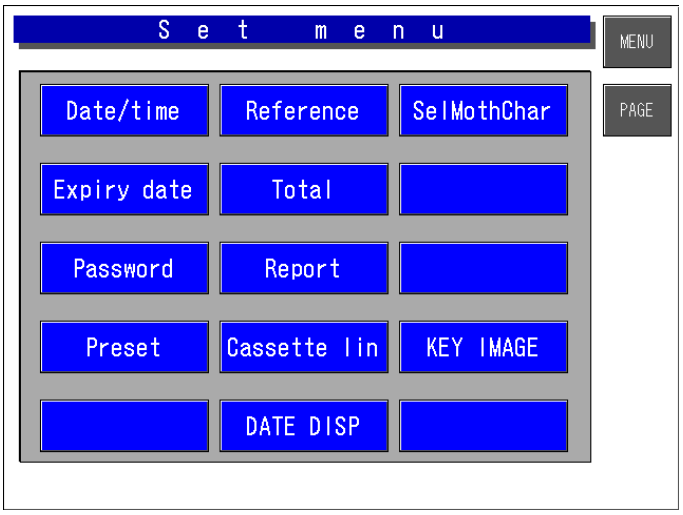
CHAPTER 5

SET UP MENU

5.1 START-UP OF SET UP MENU



● **How to start Set Up Menu screen**
Touch the [SETUP] key on the Main Menu to start the Set Up Menu. The Set Up Menu screen appears.

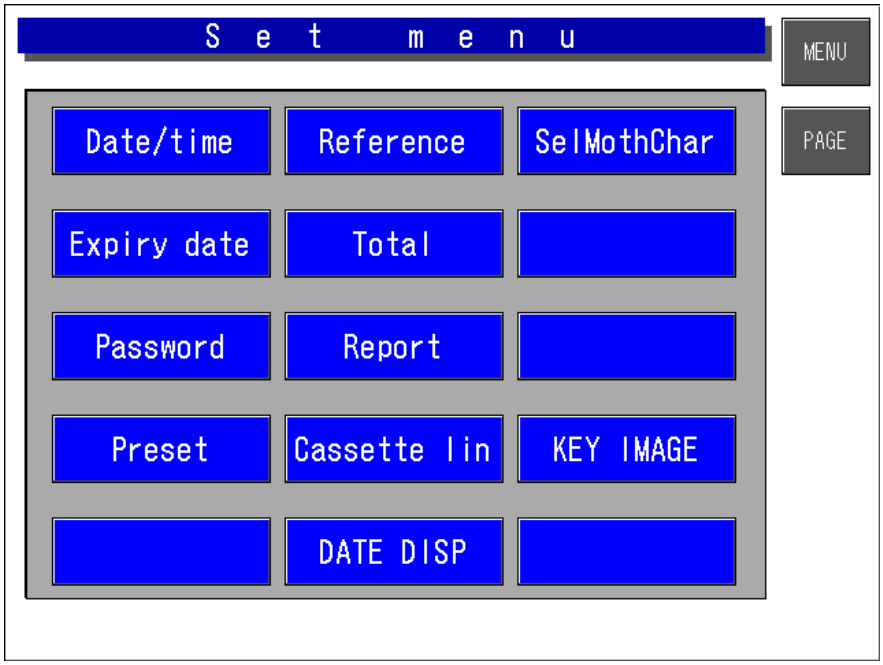


● **How to select the desired item**
Press the touch key of the item you want to select on the screen.

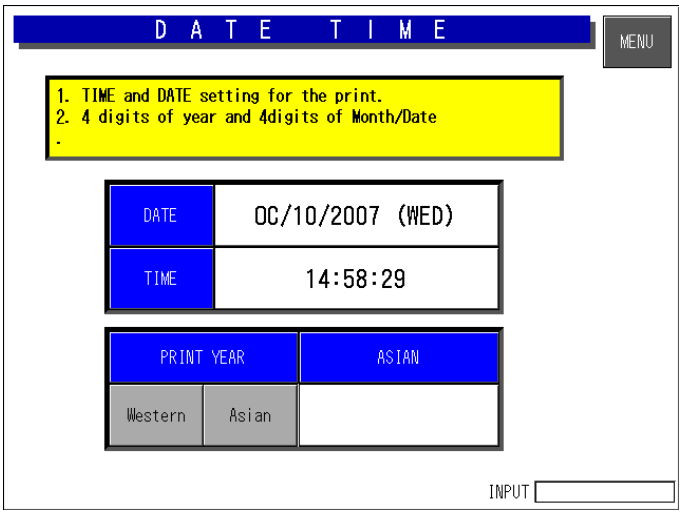
● **How to display “Set Up Menu 2” screen**
To display “Set Up menu 2“ screen, enter [9][9][9] and touch the [PAGE] key.

● **How to return the display to Main Menu**
To return the display to the Main Menu, touch the [MENU] key on the screen.

5.2 SET UP MENU 1

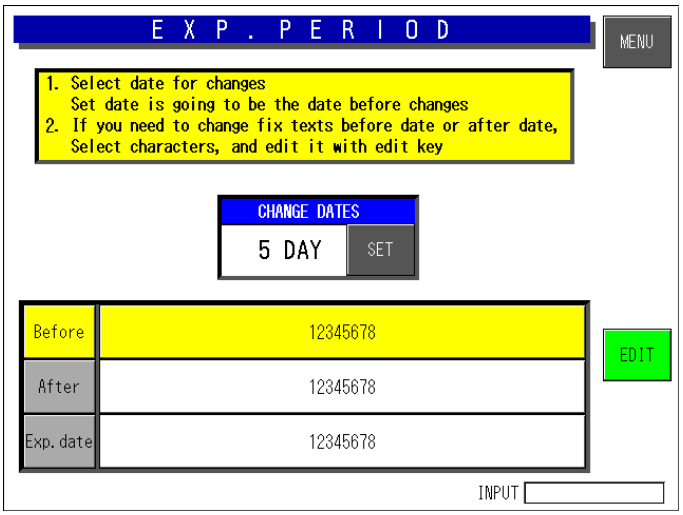


1. Date/Time Setting



- **How to display this screen**
  Touch the [Date/time] key on the Set Menu screen
- **How to set the date and time**
  Enter the desired date or time. For example, enter [10102007] to set the date as October 10, 2007. Then touch the [DATE] key to update the date.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

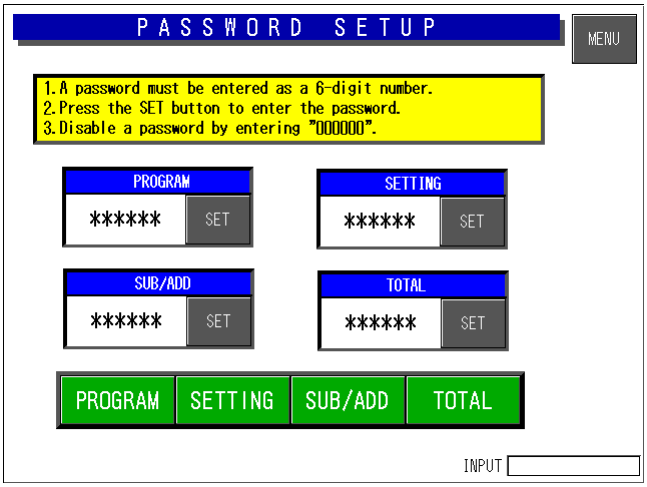
2. Expiry Date Setting



This function is not available with this machine, but provided for a future option.

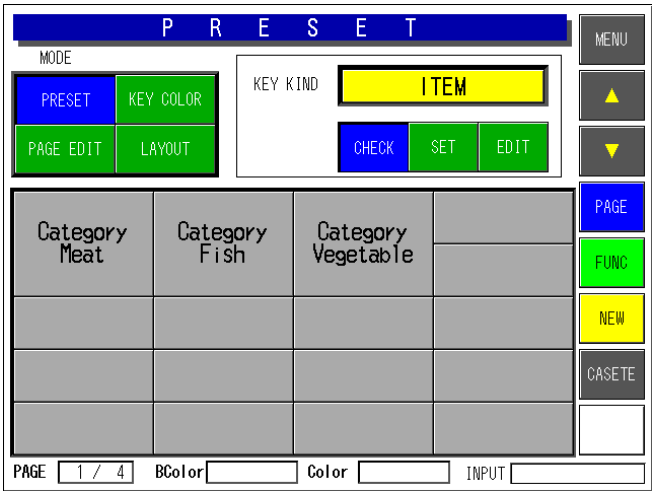
- **How to display this screen**
  Touch the [Expiry date] key on the Set Up Menu screen
- **How to set the Conversion Days**
  Enter the number of days and touch the [SET] key.
- **How to select the desired field**
  Touch to select the desired field for Expired Date Set Error.
- **How to edit the desired text**
  Touch to select the desired field and touch the [EDIT] key to access the edit screen.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

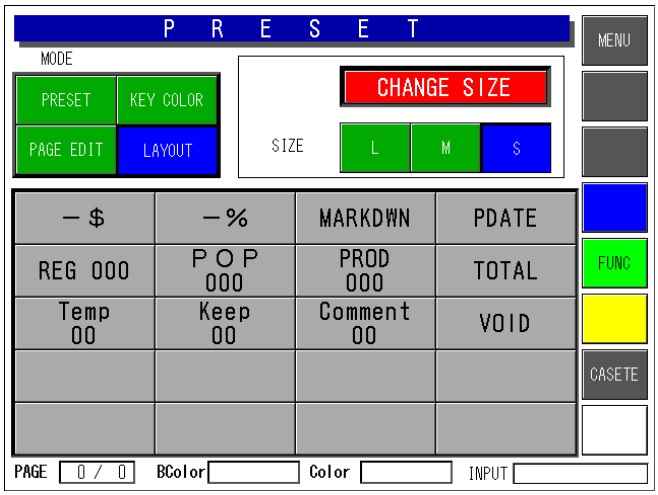
3. Password Setting

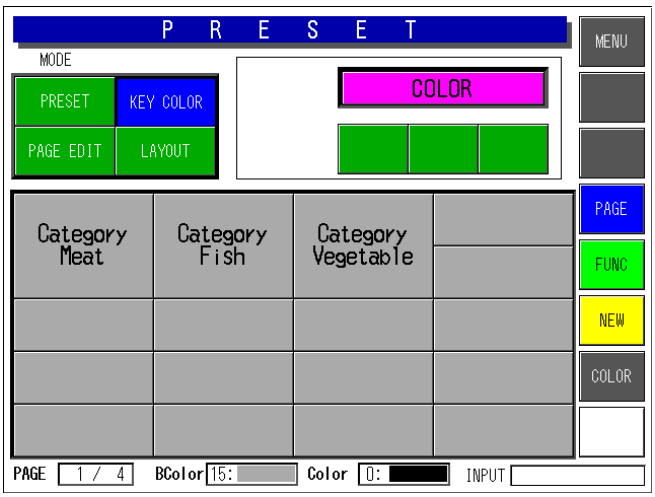


- **How to display this screen**
  Touch the PASSWORD SET key on the Set Up Menu screen
- **How to set the password**
  Enter the desired password (6 digits) to be applied for the selected mode(s) and touch the corresponding SET key.
- **How to select the desired mode**
  Touch to select the desired mode(s).
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

4. Preset

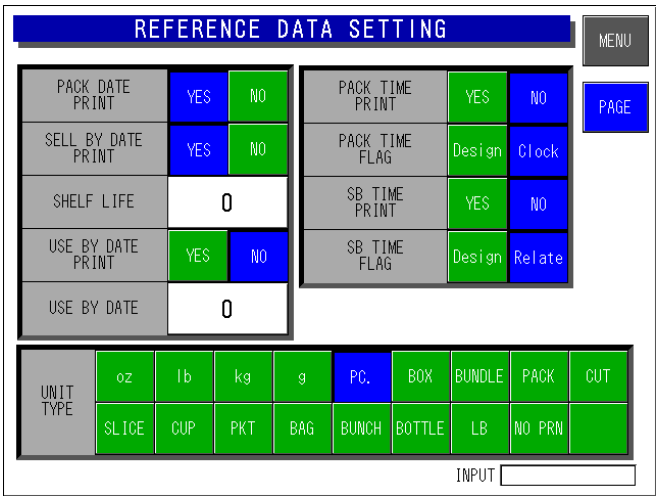


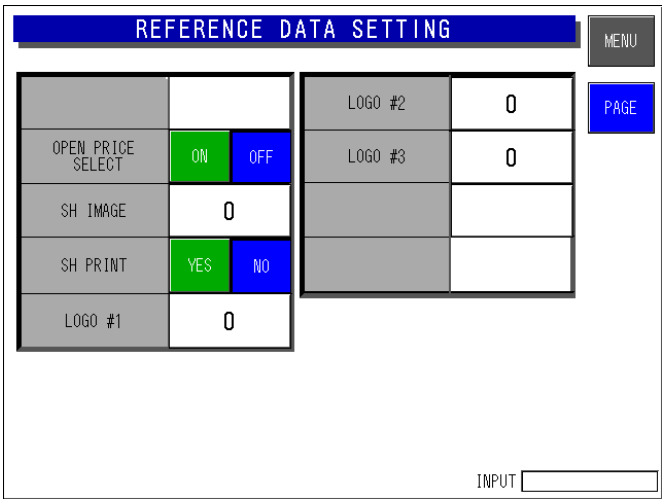




- **How to display this screen**
  Touch the [Preset] key on the Set Up Menu screen
- **How to select the desired field**
  Touch to select the desired field for each reference data.
- **How to display the next page**
  To display the next page, touch the [PAGE] key.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

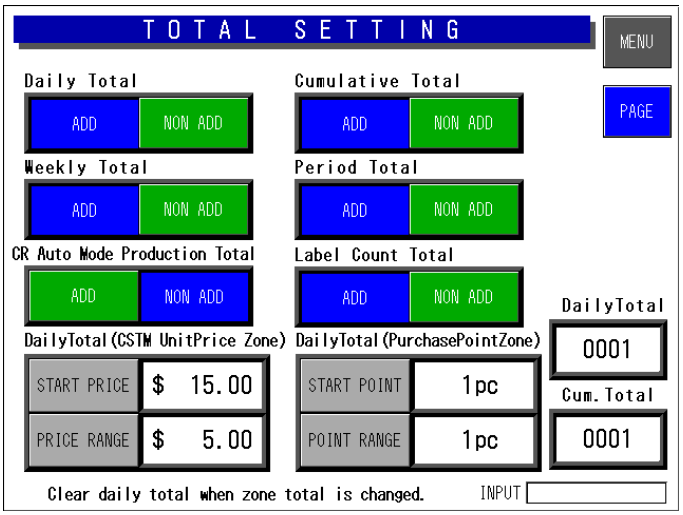
5. Reference Data Setting

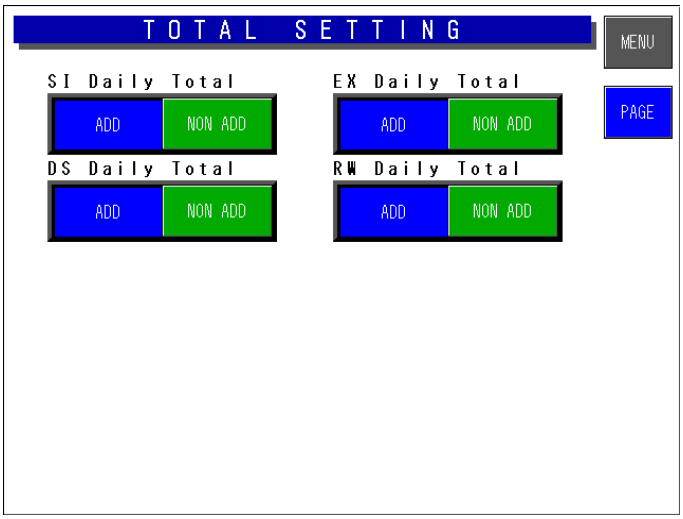




- **How to display this screen**
  Touch the [Reference] key on the Set Up Menu screen
- **How to select the desired field**
  Touch to select the desired field for each reference data.
- **How to set the desired numeric value**
  Enter the desired numeric value for each reference data and touch the corresponding SET key.
- **How to display the next page**
  To display the next page, touch the [PAGE] key.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

6. Total Setting

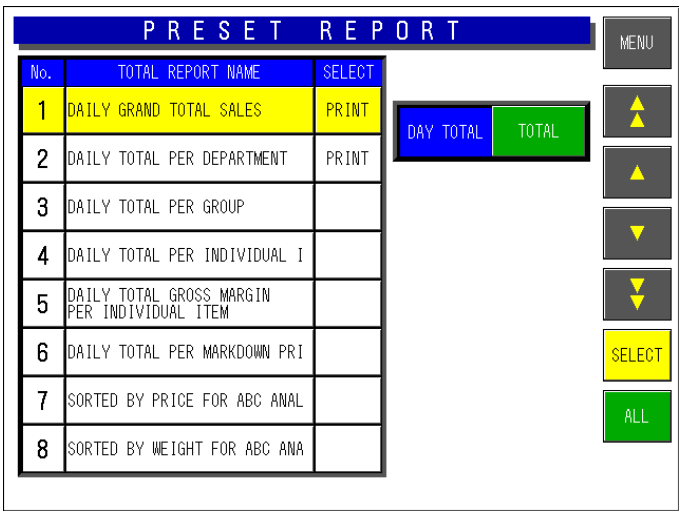




This function is not available with this machine, but provided when Cash Register mode will be used in future.

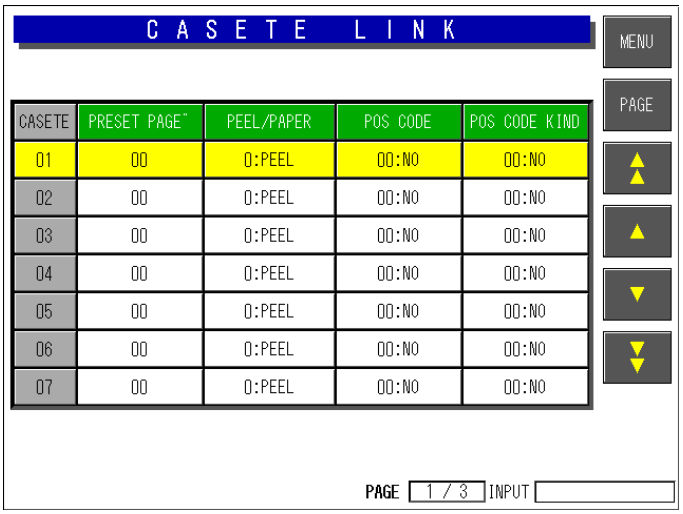
- **How to display this screen**
  Touch the TOTAL SET key on the Set Up Menu screen.
- **How to select the desired field**
  Touch to select the desired field for each data.
- **How to set the desired numeric value**
  Enter the desired numeric value for each data and touch the corresponding SET key.
- **How to display the next page**
  To display the next page, touch the [PAGE] key.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

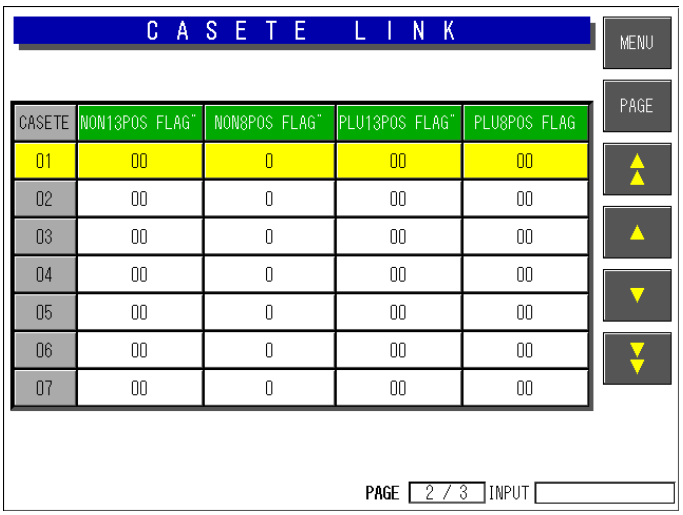
7. Report Setting



- **How to display this screen**
  Touch the REPORT key on the Set Menu screen.
- **How to select Day Total or Total**
  Touch either [Day Total] or [Total] to select the desired report type.
- **How to select individual report or all reports**
  Touch either [SELECT] or [ALL] to select individual or all reports.
- **How to preset individual report**
  Touch the corresponding SELECT field to preset to be printed.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

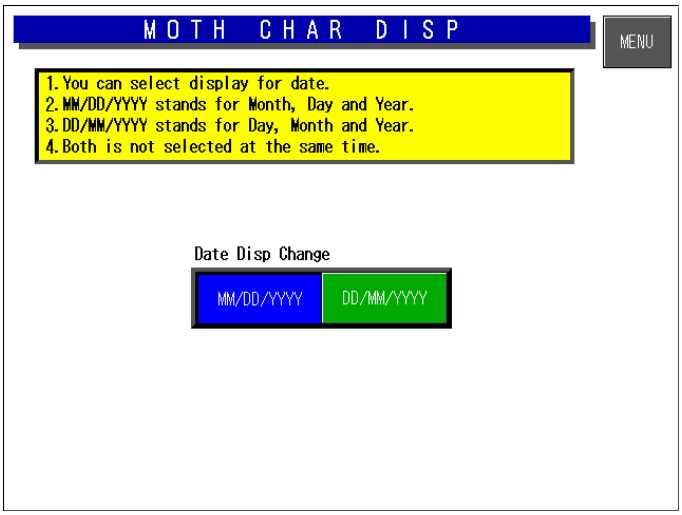
8. Cassette Link Setting

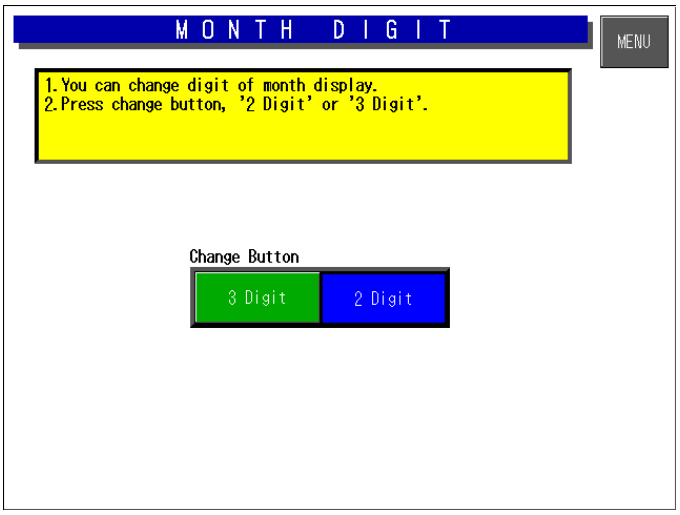




- **How to display this screen**
  Touch the [Cassette lin] key on the Set Up Menu screen
- **How to select the desired field**
  Touch to select the desired field for each reference data.
- **How to display the next page**
  To display the next page, touch the [PAGE] key.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

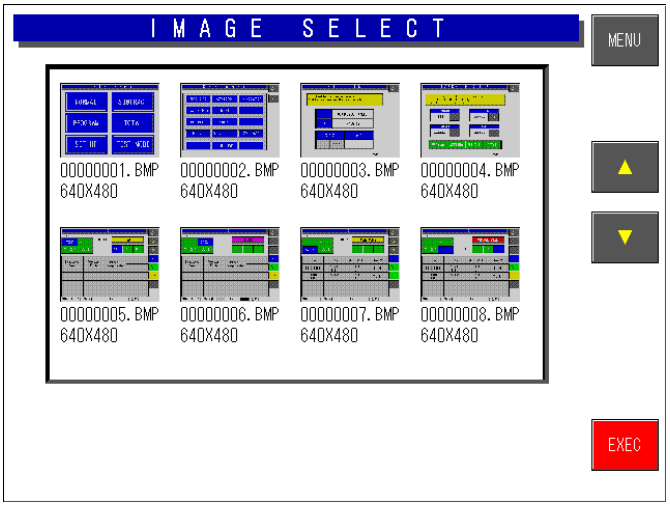
9. Date Display Setting


MOTH CHAR DISP
MENU
1.You can select display for date.
2.MM/DD/YYYY stands for Month, Day and Year.
3.DD/MM/YYYY stands for Day, Month and Year.
4.Both is not selected at the same time.
Date Disp Change
MM/DD/YYYY
DD/MM/YYYY



- **How to display this screen**
  Touch the Date Disp key on the Set Menu screen.
- **How to select Display or Date**
  Touch either [MM/DD/YYYY] or [DD/MM/YYYY] to select the desired display type.
- **How to select the number of digits**
  Touch either [3 Digit] or [2 Digit] to select the number of digits to be displayed.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

10. Key Image Select

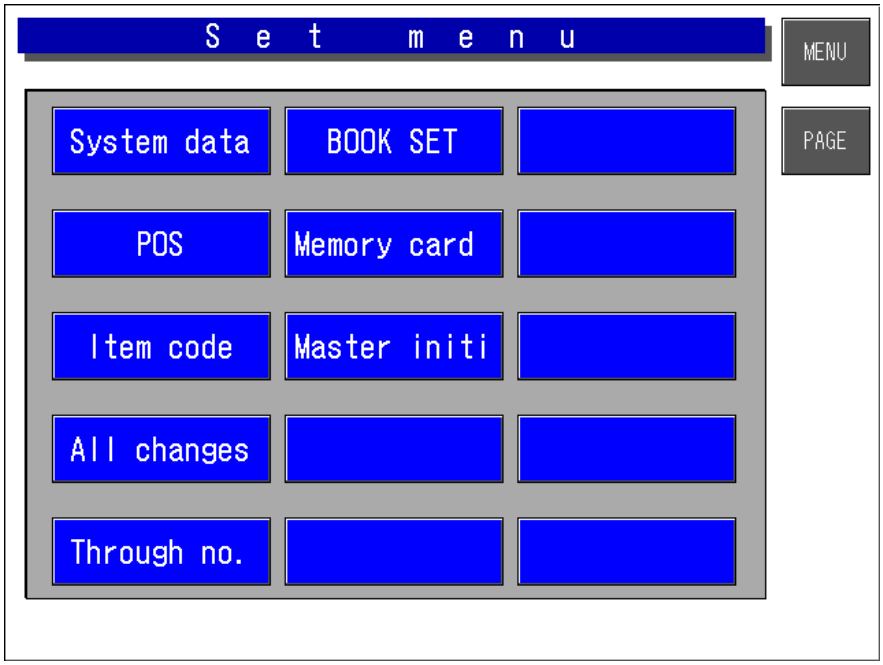


This function is used to list images stored in the machine and select the desired image to be used.

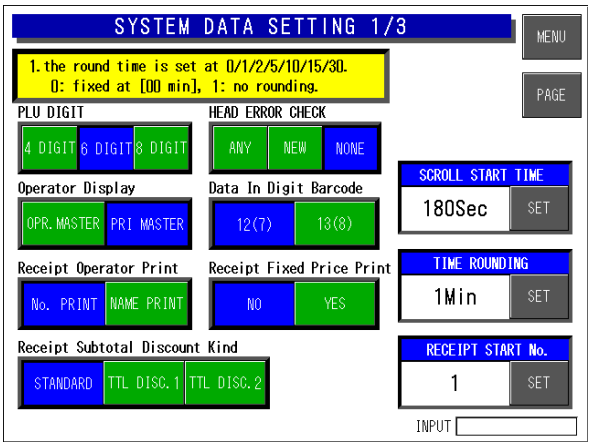
- **How to display this screen**
  Touch the KEY IMAGE key on the Set Up Menu screen
- **How to select the image**
  Touch to select the desired image area.
- **How to paste on the preset key**
  Touch the EXECUTE key to paste on the desired preset key.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

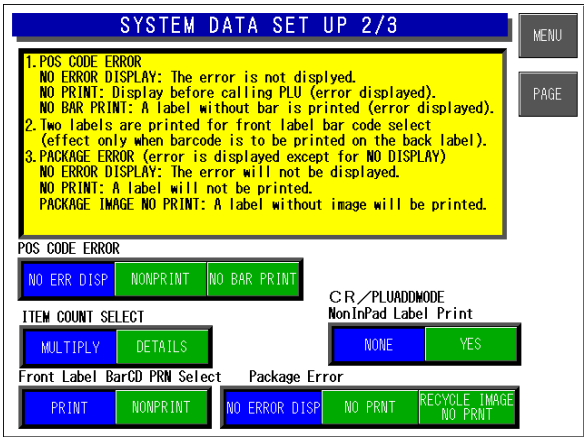
5.3 SET UP MENU 2

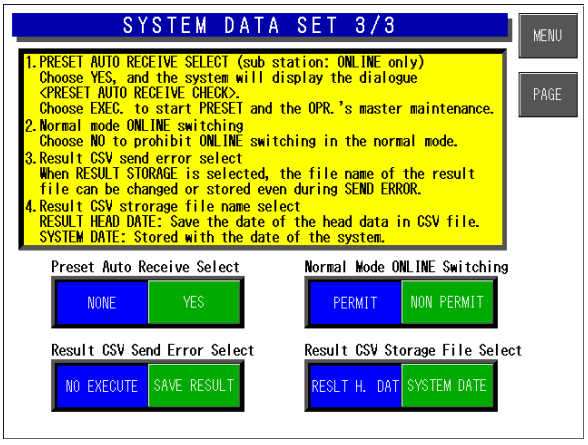
To display the “Set Up menu 2“ screen, enter [9][9][9] and touch the [PAGE] key.



1. System Data Setting

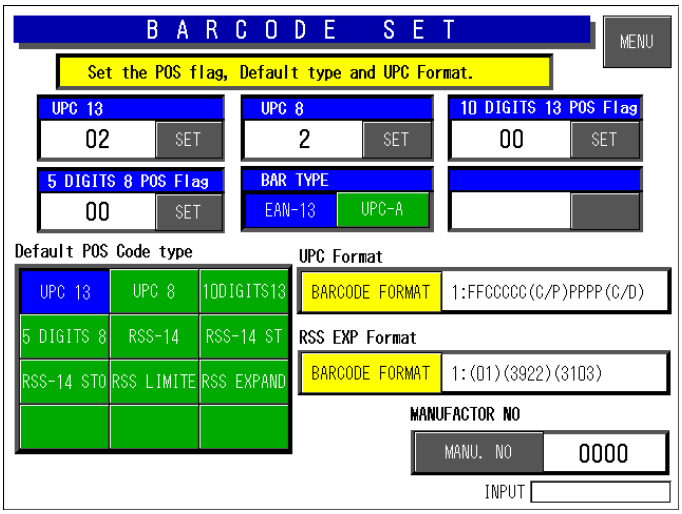



SYSTEM DATA SET UP 2/3
MENU
PAGE
1. POS CODE ERROR
NO ERROR DISPLAY: The error is not displyed.
NO PRINT: Display before calling PLU (error displayed).
NO BAR PRINT: A label without bar is printed (error displayed).
2. Two labels are printed for front label bar code select
(effect only when barcode is to be printed on the back label).
3. PACKAGE ERROR (error is displayed except for NO DISPLAY)
NO ERROR DISPLAY: The error will not be displayed.
NO PRINT: A label will not be printed.
PACKAGE IMAGE NO PRINT: A label without image will be printed.
POS CODE ERROR
NO ERR DISP
NONPRINT
NO BAR PRINT
CR/PLUADDMODE
NonInPad Label Print
NONE
YES
ITEM COUNT SELECT
MULTIPLY
DETAILS
Front Label BarCD PRN Select
PRINT
NONPRINT
Package Error
NO ERROR DISP
NO PRNT
RECYCLE IMAGE NO PRNT


SYSTEM DATA SET 3/3
MENU
PAGE
1. PRESET AUTO RECEIVE SELECT (sub station: ONLINE only)
Choose YES, and the system will display the dialogue
<PRESET AUTO RECEIVE CHECK>.
Choose EXEC. to start PRESET and the OPR.'s master maintenance.
2. Normal mode ONLINE switching
Choose NO to prohibit ONLINE switching in the normal mode.
3. Result CSV send error select
When RESULT STORAGE is selected, the file name of the result
file can be changed or stored even during SEND ERROR.
4. Result CSV strorage file name select
RESULT HEAD DATE: Save the date of the head data in CSV file.
SYSTEM DATE: Stored with the date of the system.
Preset Auto Receive Select
NONE
YES
Normal Mode ONLINE Switching
PERMIT
NON PERMIT
Result CSV Send Error Select
NO EXECUTE
SAVE RESULT
Result CSV Storage File Select
RESLT H. DAT
SYSTEM DATE

- **How to display this screen**
  Touch the SYS DATA SET key on the Set Up Menu screen.
- **How to select the desired field**
  Touch to select the desired field for each data.
- **How to set the desired numeric value**
  Enter the desired numeric value for each data and touch the SET key.
- **How to display the next page**
  To display the next page, touch the [PAGE] key.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

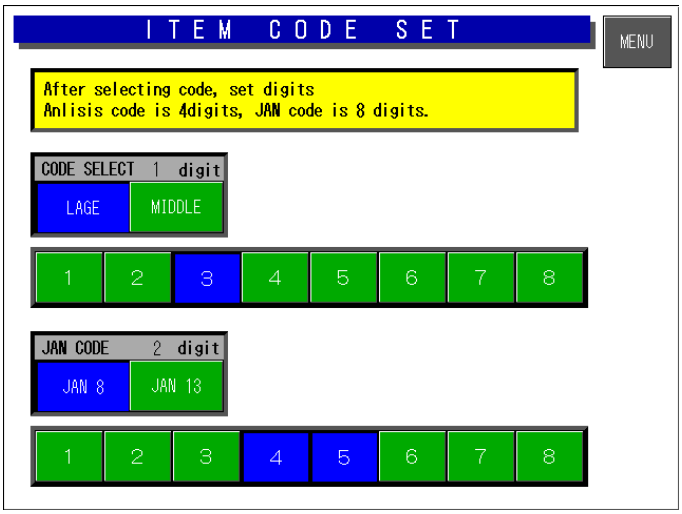
2. Barcode Setting



Set the POS flag, default type, and UPC code.

- **How to display this screen**
  Touch the BARCODE SET key on the Set Up Menu screen.
- **How to select the desired field**
  Touch to select the desired field for each data.
- **How to set the desired numeric value**
  Enter the desired numeric value for each data and touch the SET key.
- **How to select UPC and Barcode formats**
  Touch the corresponding field to display a selection list. Then, touch to select the desired item field.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

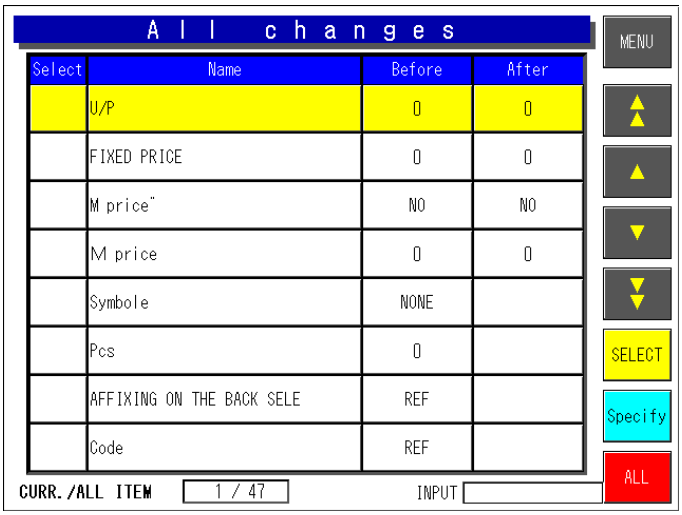
3. Item Code Setting



After selecting the code type, set the code digit, 4-digit classification code, and 8-digit JAN code.

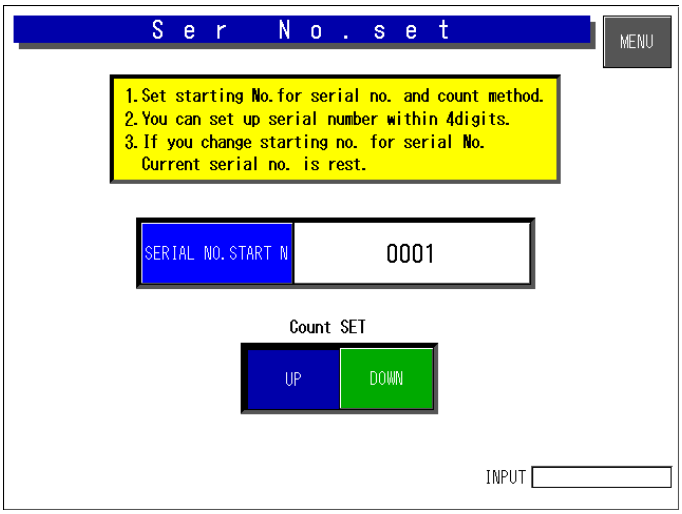
- **How to display this screen**
  Touch the ITEM CODE key on the Set Up Menu screen.
- **How to select the desired field**
  Touch to select the desired field for each data.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

4. PLU Update



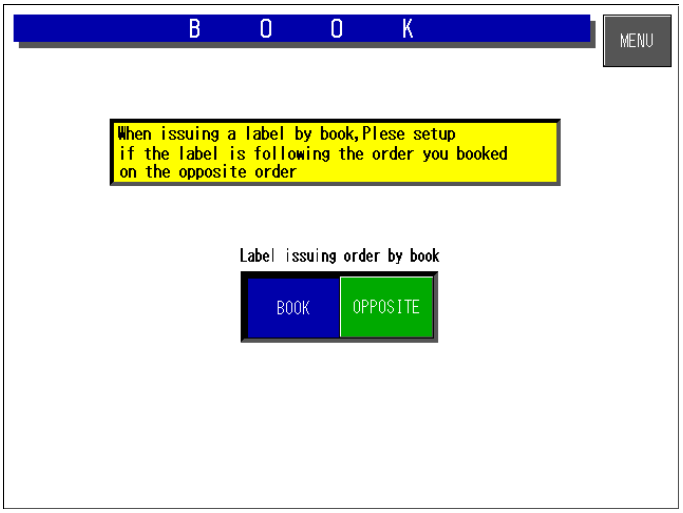
- **How to display this screen**
  Touch the PLU UPDATE key on the Set Up Menu screen.
- **How to set the desired numeric value**
  Enter the desired numeric value for each data and touch the corresponding field.
- **How to select the desired item**
  Touch the corresponding field to display a selection list. Then, touch to select the desired item field
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

5. Serial Number Setting


S e r N o . s e t
MENU
1. Set starting No. for serial no. and count method.
2. You can set up serial number within 4digits.
3. If you change starting no. for serial No.
Current serial no. is rest.
SERIAL NO. START N
0001
Count SET
UP
DOWN
INPUT

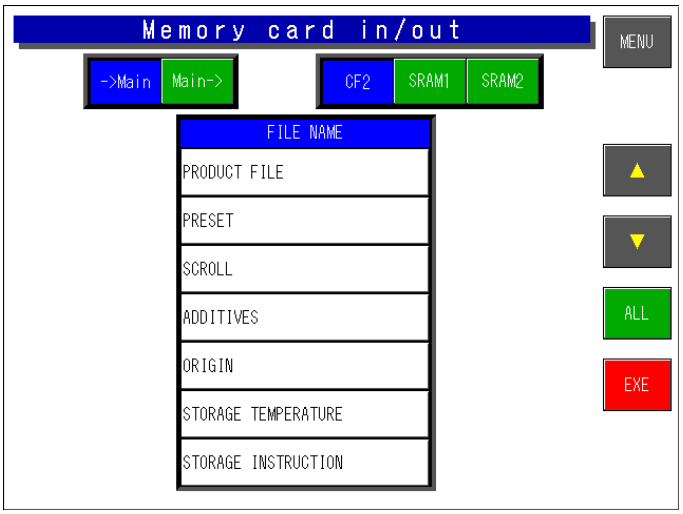
- **How to display this screen**
  Touch the PLU UPDATE key on the Set Up Menu screen.
- **How to set the desired numeric value**
  Enter the desired numeric value for each data and touch the corresponding field.
- **How to select the desired item**
  Touch the corresponding field to display a selection list. Then, touch to select the desired item field
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

6. Book Setting


B O O K
MENU
When issuing a label by book,Plese setup
if the label is following the order you booked
on the opposite order
Label issuing order by book
BOOK
OPPOSITE

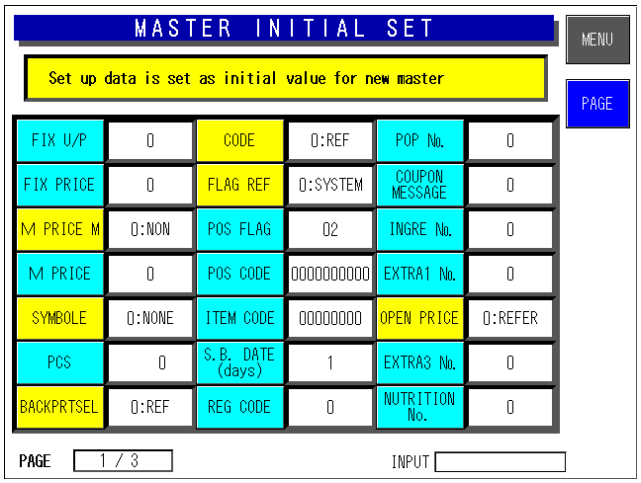
- **How to display this screen**
  Touch the PLU UPDATE key on the Set Up Menu screen.
- **How to set the desired numeric value**
  Enter the desired numeric value for each data and touch the corresponding field.
- **How to select the desired item**
  Touch the corresponding field to display a selection list. Then, touch to select the desired item field
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

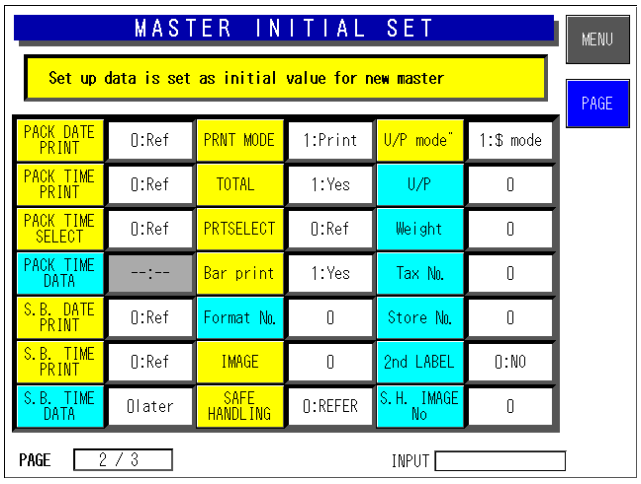
7. Memory Card Setting

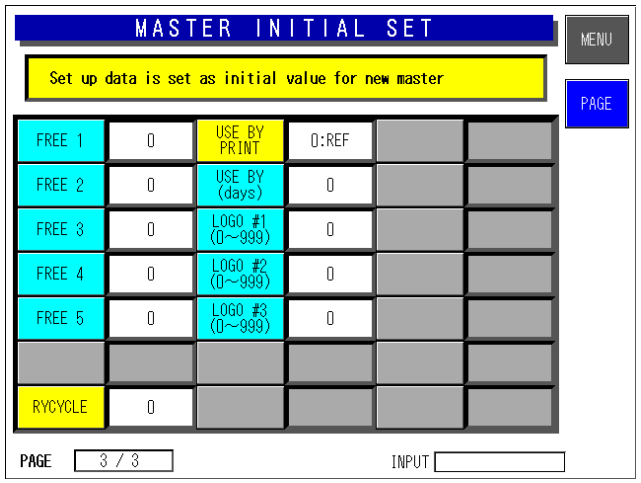


- **How to display this screen**
  Touch the PLU UPDATE key on the Set Up Menu screen.
- **How to set the desired numeric value**
  Enter the desired numeric value for each data and touch the corresponding field.
- **How to select the desired item**
  Touch the corresponding field to display a selection list. Then, touch to select the desired item field
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

8. Master Initial Value Setting


MASTER INITIAL SET
MENU
Set up data is set as initial value for new master
PAGE
FIX U/P 0 CODE 0:REF POP No. 0
FIX PRICE 0 FLAG REF 0:SYSTEM COUPON MESSAGE 0
M PRICE M 0:NON POS FLAG 02 INGRE No. 0
M PRICE 0 POS CODE 0000000000 EXTRA1 No. 0
SYMBOLE 0:NONE ITEM CODE 00000000 OPEN PRICE 0:REFER
PCS 0 S.B. DATE (days) 1 EXTRA3 No. 0
BACKPRTSEL 0:REF REG CODE 0 NUTRITION No. 0
PAGE 1 / 3
INPUT


MASTER INITIAL SET
MENU
Set up data is set as initial value for new master
PAGE
PACK DATE PRINT 0:Ref PRNT MODE 1:Print U/P mode" 1:$ mode
PACK TIME PRINT 0:Ref TOTAL 1:Yes U/P 0
PACK TIME SELECT 0:Ref PRTSELECT 0:Ref Weight 0
PACK TIME DATA --:-- Bar print 1:Yes Tax No. 0
S.B. DATE PRINT 0:Ref Format No. 0 Store No. 0
S.B. TIME PRINT 0:Ref IMAGE 0 2nd LABEL 0:NO
S.B. TIME DATA 0later SAFE HANDLING 0:REFER S.H. IMAGE No 0
PAGE 2 / 3
INPUT


MASTER INITIAL SET
MENU
Set up data is set as initial value for new master
PAGE
FREE 1 0 USE BY PRINT 0:REF
FREE 2 0 USE BY (days) 0
FREE 3 0 LOGO #1 (0~999) 0
FREE 4 0 LOGO #2 (0~999) 0
FREE 5 0 LOGO #3 (0~999) 0
RYCYCLE 0
PAGE 3 / 3
INPUT

Set the default data to be used when a new PLU is created.

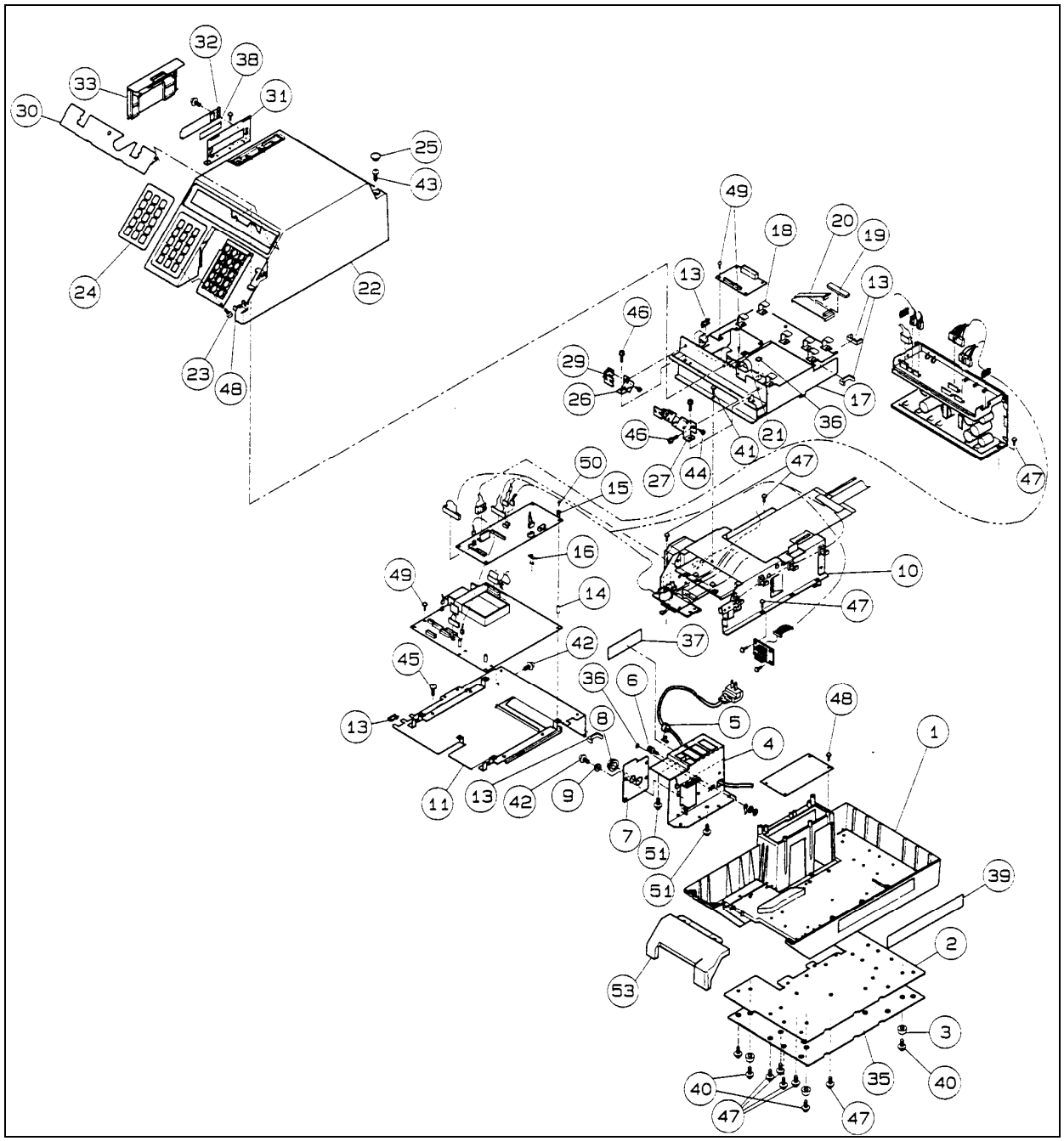
- **How to display this screen**
  Touch the DEFAULT DATA key on the Set Up Menu screen.
- **How to select the desired item**
  Touch one of yellow buttons to display a selection list. Then, touch to select the desired item field.
- **How to set the desired numeric value**
  For blue buttons, enter the desired numeric value and touch the corresponding field.
- **How to return the display to Main Menu**
  To return the display to the Main Menu, touch the [MENU] key on the screen.

CHAPTER 6

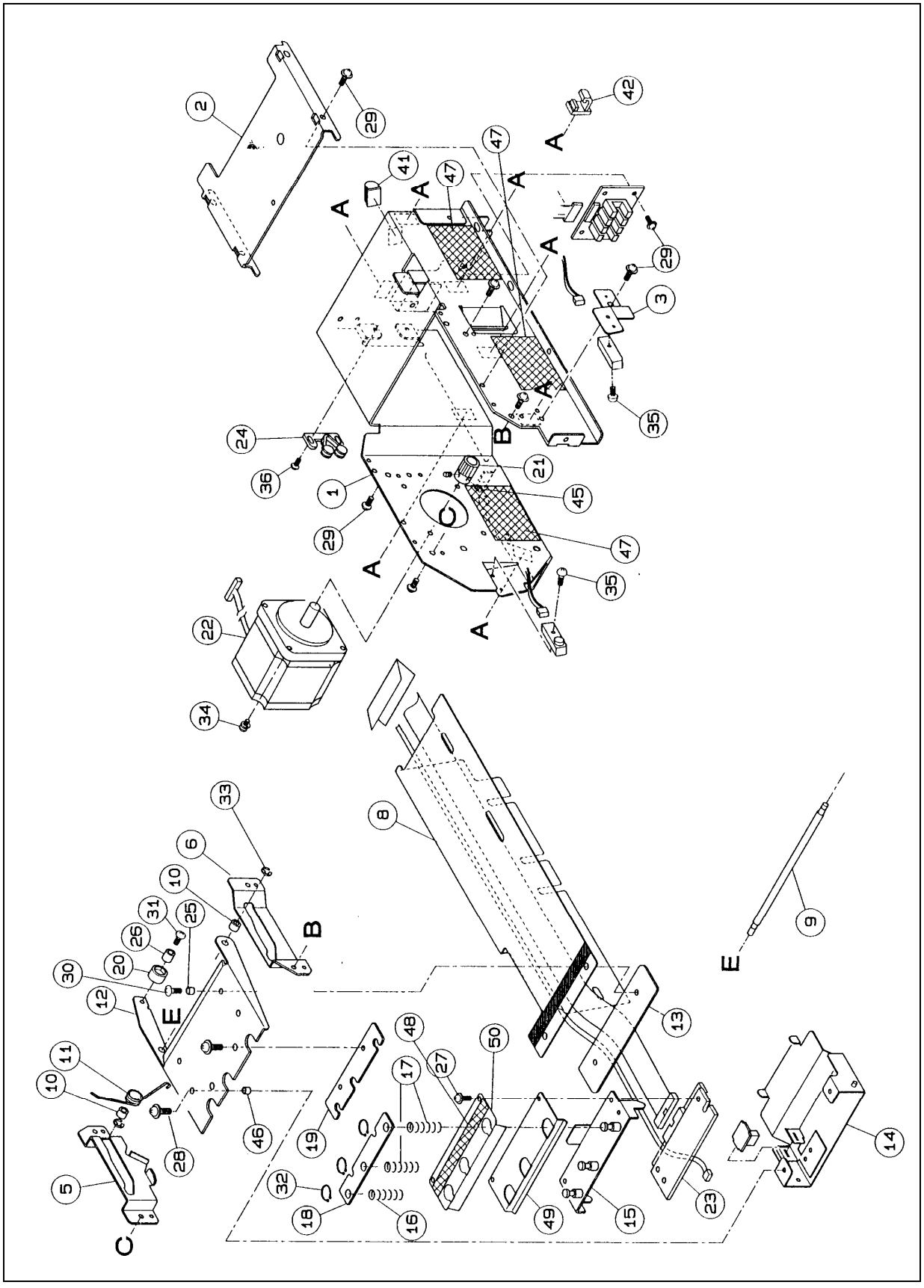
HARDWARE CONFIGURATION

6.1 MECHANICAL COMPONENTS

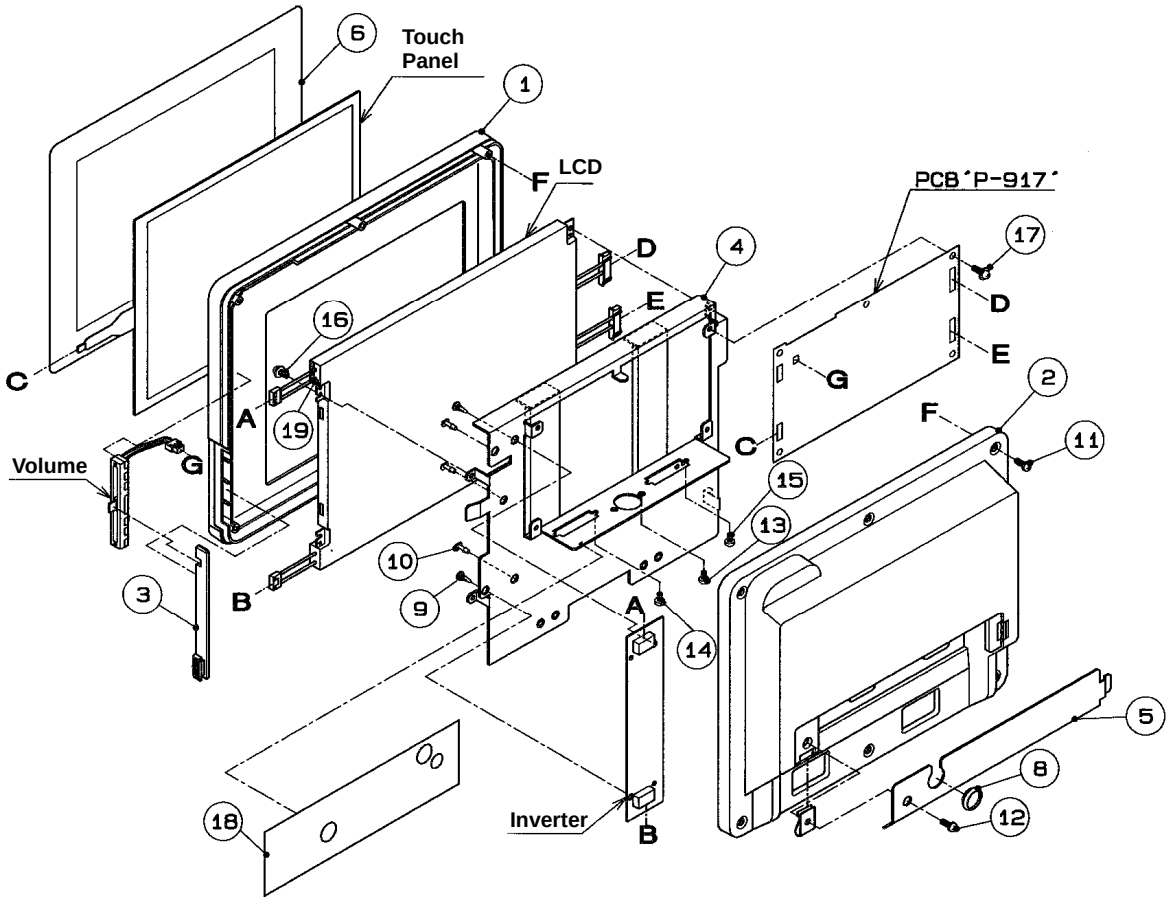
1. Main Unit



2. Printer Unit

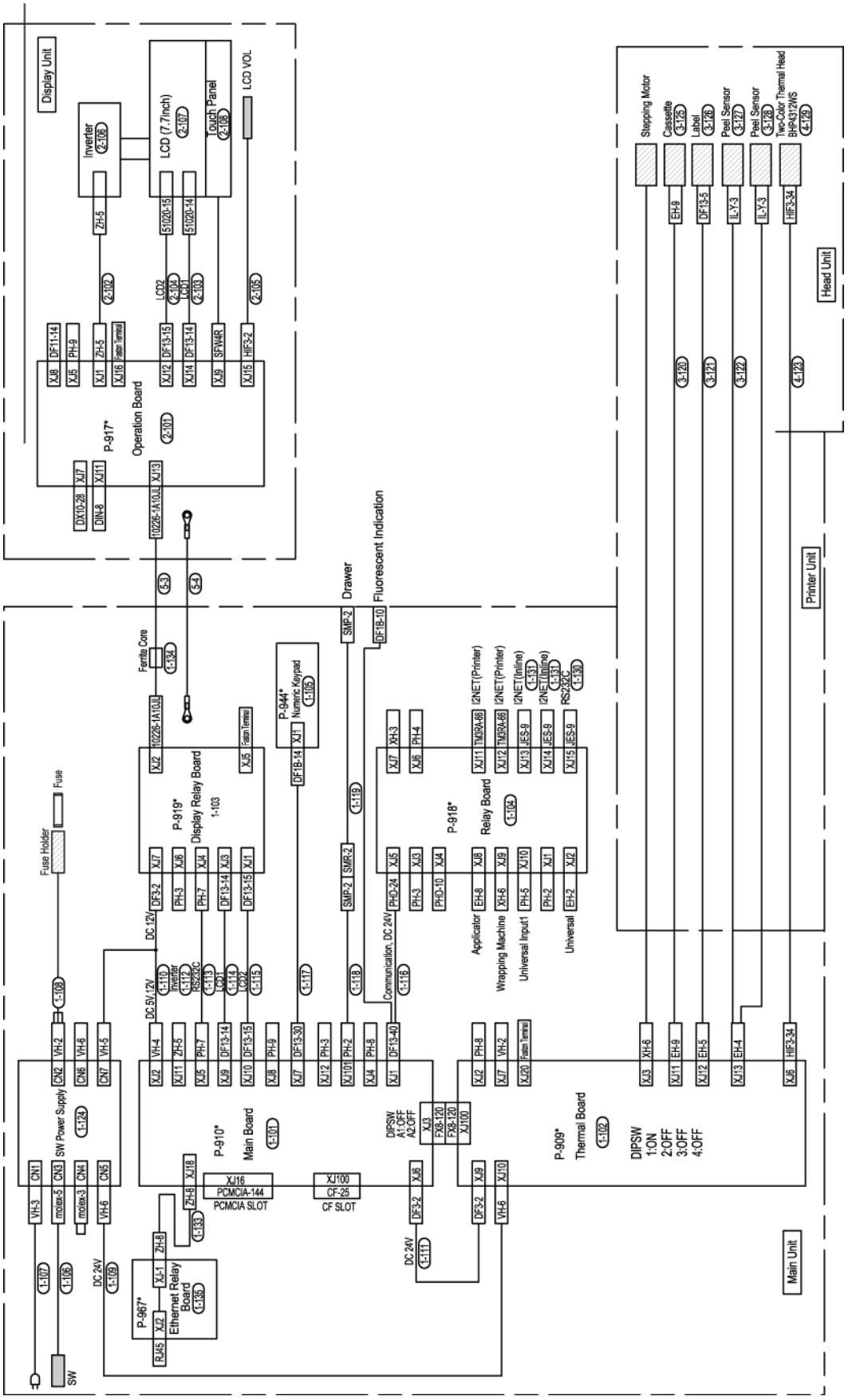


3. Display Unit



6.2 ELECTRICITY

1. Electric Block

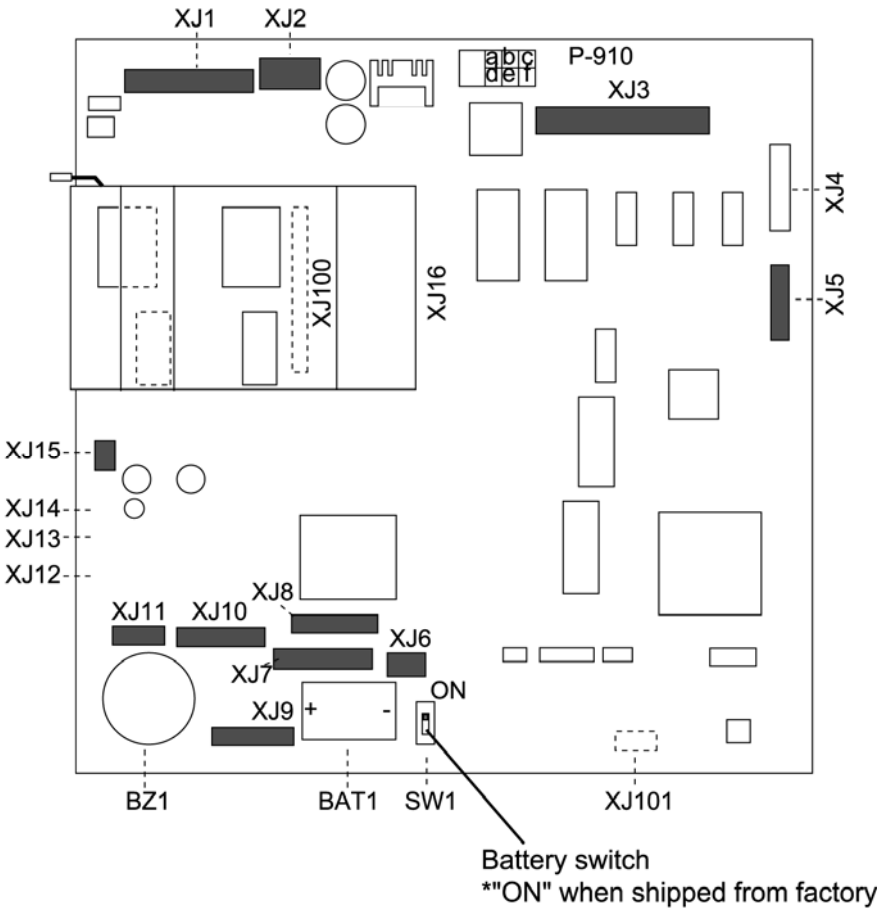


2. Board Setting

1) Main board (P-910)

WARNING

When replacing the board, make sure to turn ON the battery switch.



● I/O signals

XJ1

No.	Signal name	Direction	Other side
1 to 28	RS-232C I²NET(ELAN) I²NET(ILAN) Fluorescent indicator	−	P-918 (XJ5,7)
29 to 31	DC+12[V]	→	
32 33	VH DC+24[V]	→	
34 to 38	GND	→	
39 40	Vcc DC+5[V]	→	

XJ2

No.	Signal name	Direction	Other side
1	DC+5[V]	←	SW power supply (CN7)
2	GND(DC+5[V])	←	
3	DC+12[V]	←	
4	GND(DC+12[V])	←	

XJ3

No.		Signal name	Other side
A0 to A60	B0 to B60	Signal between P-909 and P-910	P-909 (XJ1)

XJ5

No.	Signal name	Direction	Other side	
1	TXD	→	2	RS-232C (P-919)
2	RTS	→	4	
3	RXD	←	1	
4	CTS	←	3	
5	DC+5[V]	−	8	
6	SG	−	5	
7	−	−	−	

XJ6

No.	Signal name	Direction	Other side
1	DC+24[V]	←	P-909 (XJ9)
2	GND	−	

XJ7

No.	Signal name	Direction	Other side
1 to 24	KEYBORD control signal	−	Keyboard P-944 (XJ1)
25 to 27	Vcc DC+5[V]	→	
28 to 30	GND	−	

XJ9

No.	Signal name	Direction	Other side
1 to 8	Data (LDO to LD7)	−	Liquid crystal display (Through P-919)
9	Vcc(DC+5[V])	→	
10	GND	−	
11	−	−	
12	DC+34[V]	→	
13	DC+34[V]	→	
14	Vcont	→	

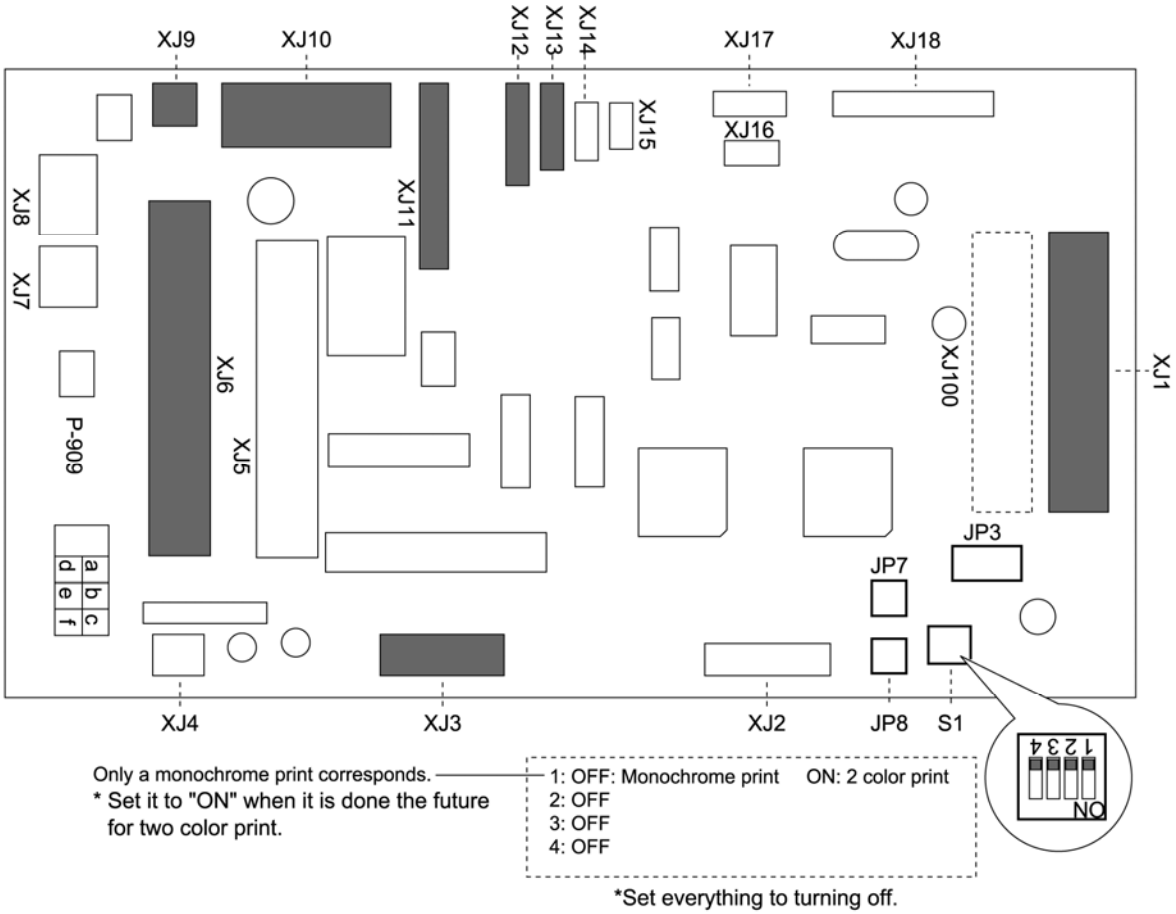
XJ10

No.	Signal name	Other side
1 to 15	Liquid crystal display control signal	Liquid crystal display (Through P-919)

XJ11

No.	Signal name	Direction	Other side
1	DC+12[V]	→	Back light inverter (CN1)
2	GND	−	
3	ON/OFF(buzzer on/off)	−	

2) Thermal board (P-909)



Setting of DIP switch S1

1	ON
2	OFF
3	OFF
4	OFF

● I/O signals

XJ1

No.		Signal name	Other side
A0 to A60	B0 to B60	Signal between P-909 and P-910	P-910 (XJ3)

XJ3

No.	Signal name	Direction	Other side
1	$\overline{B}$ phase	→	Stepping motor
2	B phase	→	
3	$\overline{A}$ phase	→	
4	A phase	→	
5	B_{COM}	–	
6	A_{COM}	–	

XJ6

No.	Signal name	Direction	Other side
1, 3, 5, 7, 9	GND	–	Thermal head
2, 4, 6, 8, 10	V_H (DC+24[V])	→	
11	GND	–	
12, 13	V_{CC} (DC+5[V])	→	
14 to 34	Signal between thermal heads P-909 -	-	

XJ9

No.	Signal name	Direction	Other side
1	DC+24[V]	1	P-910 (XJ6)
2	GND (DC+24[V])	2	

XJ10

No.	Signal name	Direction	Other side	
1	DC+24[V]	←	1	SW power supply (CN6)
2	DC+24[V]	←	2	
3	DC+24[V]	←	3	
4	GND	–	4	
5	GND	–	5	
6	GND	–	6	

XJ11

No.	Signal name	Direction	Other side
1	Cassette 0(Vcc)	→	Cassette sensor
2	Cassette 0	–	
3	Cassette 1(Vcc)	→	
4	Cassette 1	–	
5	Cassette 2(Vcc)	→	
6	Cassette 2	–	
7	Head-up (Vcc)	→	
8	Head-up	–	
9	GND	–	

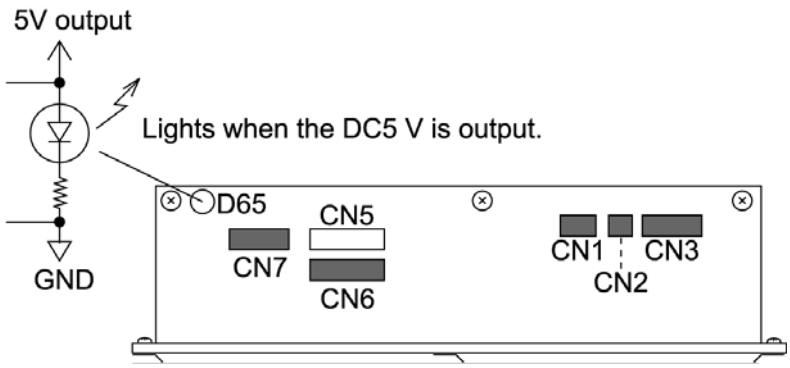
XJ12

No.	Signal name	Direction	Other side
1	Vcc (Receiver)	→	Label sensor
2	GND (Emitter)	→	
3	Vcc (Receiver)	←	
4	Sensor signal (Receiver)	←	
5	–	–	

XJ13

No.	Signal name	Direction	Other side
1	Vcc (Emitter)	→	Peel sensor
2	GND (Emitter)	–	
3	Vcc (Receiver)	→	
4	Sensor signal (Receiver)	←	

3) Power Supply Unit



- **I/O signals**

CN1

No.	Signal name	Direction	Other side
1	AC100[V]	←	Power supply plug
2	–	–	
3	AC100[V]	←	

CN3

No.	Signal name	Direction	Other side
1	AC100[V]	→	Power supply SW
2	AC100[V]	←	
3	–	–	
4	AC100[V]	→	
5	AC100[V]	←	

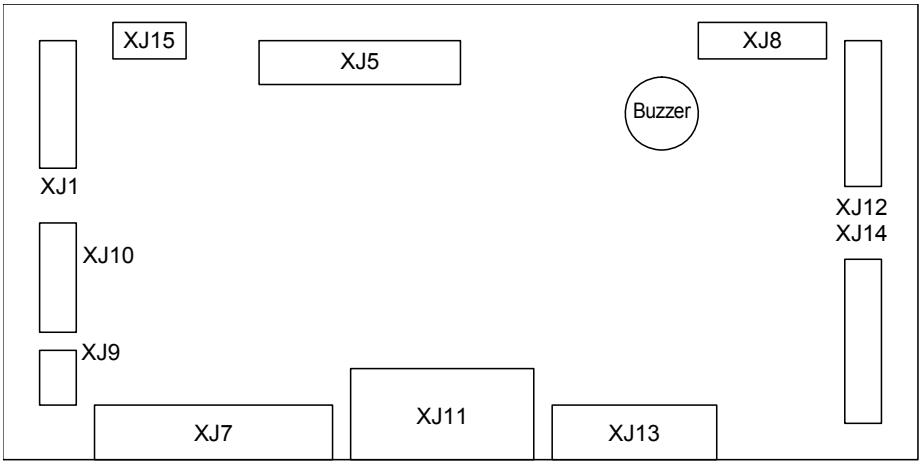
CN6

No.	Signal name	Direction	Other side	
1	DC24[V]	→	1	P-909 (XJ10)
2	DC24[V]	→	2	
3	DC24[V]	→	3	
4	GND	−	4	
5	GND	−	5	
6	GND	−	6	

CN7

No.	Signal name	Direction	Other side	
1	DC+5[V]	→	1	P-910 (XJ2)
2	DC+12[V]	→	3	
3	−	−	−	
4	GND	−	2	
5	GND	−	4	

4) Operation Board (P-917-1)



XJ1

No.	Signal name	Direction	Other side
1	+12[V]	→	Inverter
2	GND	−	

XJ9

No.	Signal name	Direction	Other side
1 to 4	Touch panel signal	−	Touch panel

XJ12

No.	Signal name	Direction	Other side
1 to 4, 6, 8 to 15	Liquid crystal display signal	→	LCD indicator
5, 7	GND	−	

XJ13

No.	Signal name	Direction	Other side
1, 3, 16, 18	DC+12[V]	←	P-919-1 (XJ2)
	Liquid crystal display signal	←	
2, 8, 10, 17, 19, 25	GND	−	

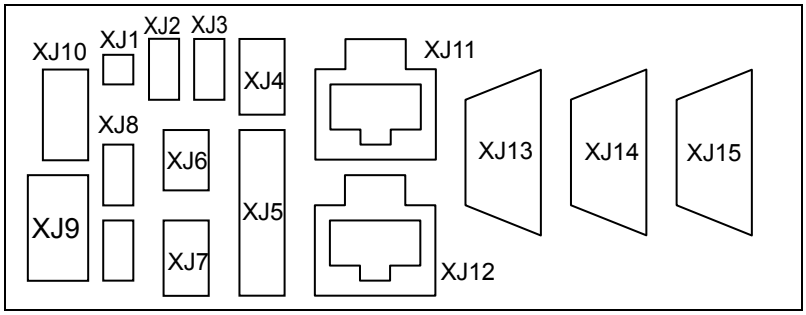
XJ14

No.	Signal name	Direction	Other side
1 to 8	Display signal	→	LCD indicator
9	Vcc	→	
10	GND	−	

XJ15

No.	Signal name	Direction	Other side
1	LCD brightness adjustment	−	LCD VR
2	GND		

5) Relay Board (P-918A-1)



XJ5

No.	Signal name	Direction	Other side
1 to 8	RS-232C	←	P-910 (XJ1)
9 to 12	I^2NET	←	
13 to 16	I^2NET	←	
17 to 20	–	–	
21 to 24	GND	–	

XJ6

No.	Signal name	Direction	Other side
1	D		Option display
2	D＊		
3, 4	GND		

XJ7

No.	Signal name	Direction	Other side
1, 2	GND	–	Option display
3	+24V	→	

XJ11

No.	Signal name	Direction	Other side
1 to 9	I^2NET		ILAN

XJ12

No.	Signal name	Direction	Other side
1 to 9	I^2NET		ILAN

XJ13

No.	Signal name	Direction	Other side
1 to 9	I^2NET		ELAN

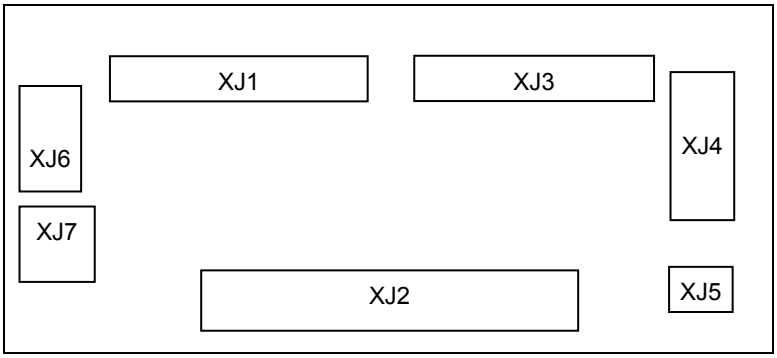
XJ14

No.	Signal name	Direction	Other side
1 to 9	I^2NET		ELAN

XJ15

No.	Signal name	Direction	Other side
1 to 9	RS-232C		RS-232C

6) Display Relay Board (P-919-1)



XJ1

No.	Signal name	Direction	Other side
1, 3 to 6, 10 to 15	Display signal	←	P-917
2, 7	GND	−	

XJ2

No.	Signal name	Direction	Other side
	Display signal	→	P-917
	GND	−	(XJ13)

XJ3

No.	Signal name	Direction	Other side
	Display signal	←	P-910
9	Vcc	←	
10	GND	−	
12,13	+34V	←	

XJ4

No.	Signal name	Direction	Other side
1	TxD	←	P-910 (XJ5) RS-232C
2	RTS	←	
3	RxD	→	
4	CTS	→	
5	DC+5V	−	
6	SG	−	
7	FG	−	

XJ6

No.	Signal name	Direction	Other side
1	DC+12[V]		P-910
2	GND		
3	ON/OFF		

XJ7

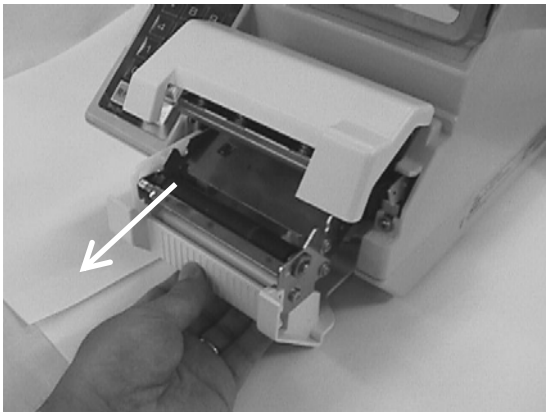
No.	Signal name	Direction	Other side
1	DC+12[V]		P-910 (XJ2)
2	GND		

CHAPTER 7

MAINTENANCE

7.1 DETACH OF PRINTER COVER

1. Printer cover is located at the right side of the front.



2. Pull out the cassette.

3. Lift the cover.

4. Slide the right side of the cover to the rear. (The cover will be damaged if the cover contacts the printer bracket.)

5. Slide the left side to the rear to remove the cover.

7.2 EXCHANGE OF THERMAL HEAD

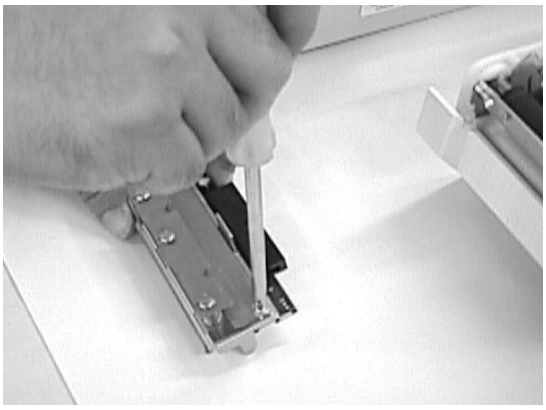
Make sure to exchange the thermal head AFTER turning off the power supply.

Remove the printer cover (Refer to 7.1) .

Resistance value setting and running distance resetting are required to exchange the thermal head. (Refer to page 3-7.)

1. Lift the thermal head with the bracket and pull it with both hands.

2. Remove the connector.



3. Remove the thermal head out of the bracket, and mount a new thermal head.

4. Mount the connector.

5. Hold the thermal head with both hands to mount it on the printer.

7.3 POSITIONING OF THE THERMAL HEAD

1. **Preparation for positioning the head.**
   Confirm that the label cassette is in an appropriate condition.
   - Adjust the space to be “+0.2 to 1.0 mm” between the guide lever and the label width.
   - Adjust the space to be “+0.1 to 0.4 mm” between the guide and the label backing paper.

2. **Remove the cover printer from the head section.**

3. **Load the cassette properly to the main body.**

4. **Select the Printer Adjustment screen, and set the head resistance.**

5. **Touch the [PAGE] key to set the label information, and touch the [FEED] key several times to feed the label.**

6. **Touch the [Checker Mark] key and press the [PRINT] three times to see the third or thereafter label. Check that there is no misalignment at the right or left and no irregular printing on the label.**

7. **Perform the following procedures when the print adjustment is necessary.**

   a. How to adjust the standard position.
   Loosen the fixing screws ((1) in the figure), and adjust the front end of the printer bracket comes to the same end of the thermal head stay. Then, lightly tighten the screws. Try to perform test printing to decide the appropriate position.

   b. If printing is too light over the label
   The cause can be assumed that the center line of the heating element of the thermal head and the center line of the print roller are misaligned to the front or back in parallel. Therefore, move the fixing screws ((1) in the figure), to the front or back and decide the positions so that the printing gets deeper.

   c. If the printing density is different at the left and the right
   The cause of the lighter part can be assumed that the thermal head is misaligned to the front or back for the center line of the print roller. Therefore, loosen the fixing screws ((1) in the figure) and move them so that the left and right of the thermal head comes in parallel (both center lines are overlapped viewing from the above) to the center line of the print roller, then tighten the screws.

   d. If the print position is misaligned left or right
   Loosen the fixing screws ((1) in the figure), and move the thermal head position in the reverse direction while keeping the above mentioned center lines in parallel, then tighten the screws.

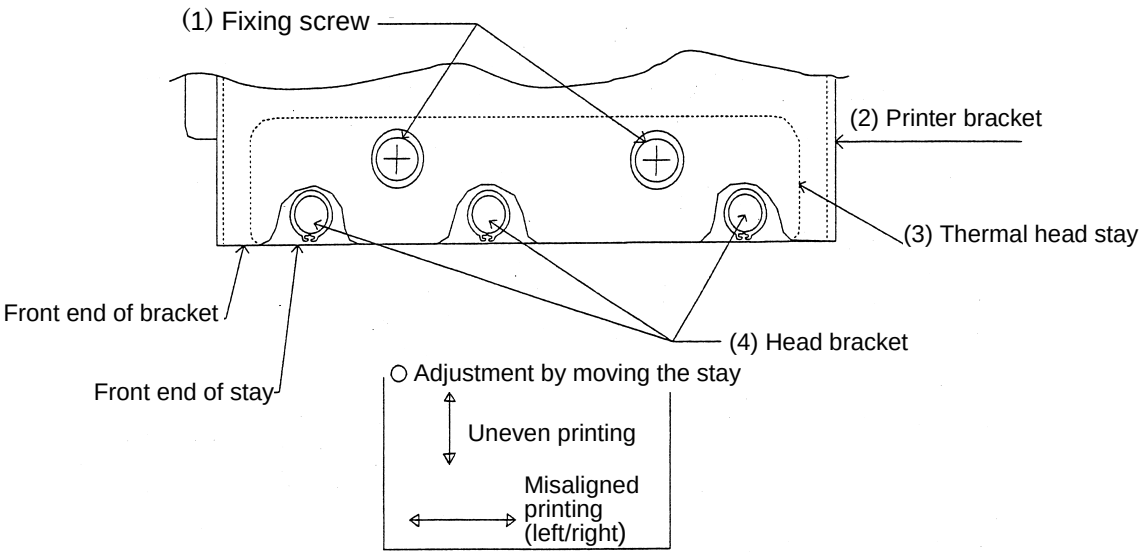


Figure 1 Positioning of the thermal head

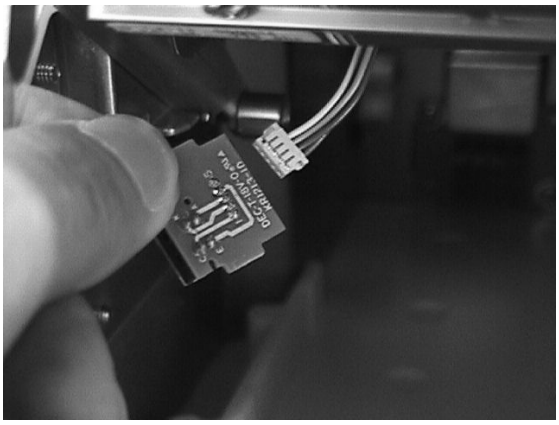
7.4 EXCHANGE OF LABEL SENSOR

Remove the printer cover in advance. (See 7.1 DETACH OF PRINTER COVER.)

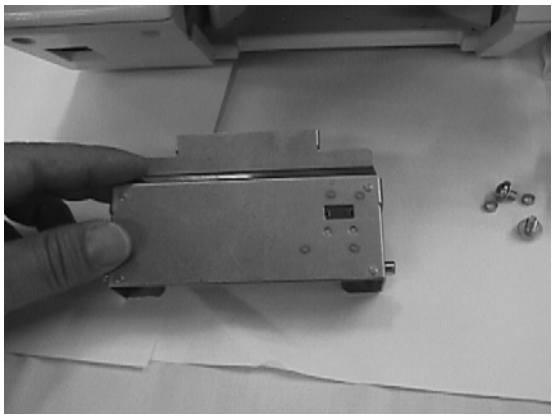
1. Remove the screws for the thermal head. Be careful not to lose the collars.

2. Remove the bracket.

3. Remove the label sensor.



4. Replace the bell sensor.



5. Check the sensor mounting side.

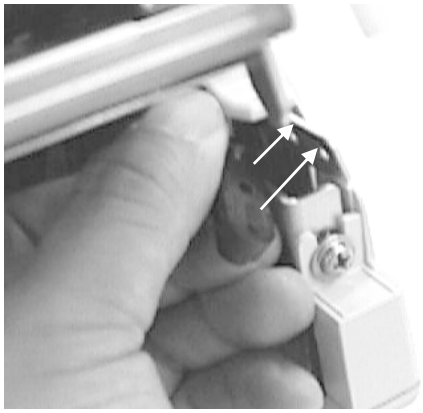
6. Mount the bracket.

7.5 EXCHANGE OF PEEL SENSOR

1. There are two peel sensors. One is at the receiver side and another at the emitter side.

2. Loosen the fixed screws to remove the sensor.

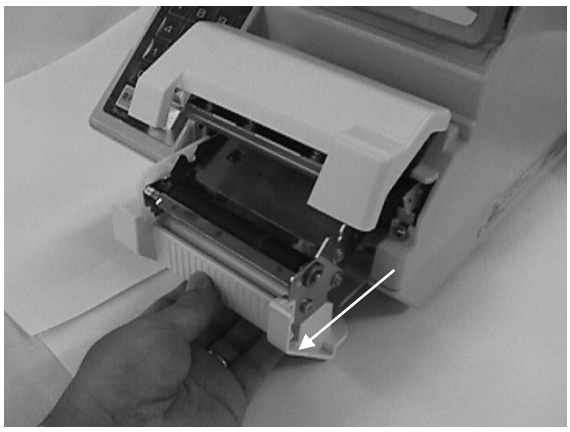
3. Remove the connector to remove the sensor.



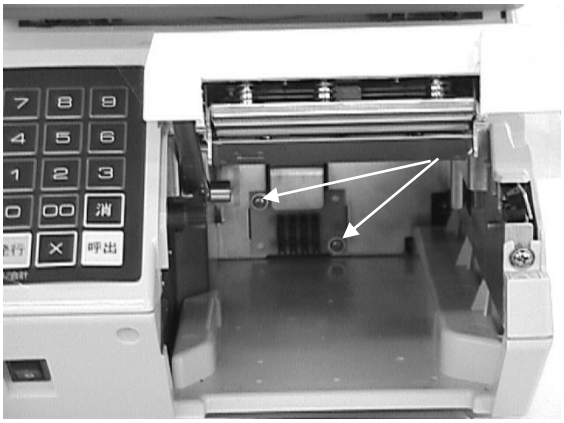
4. Adjust the protrusion portions to the holes to mount.

5. Do the same as 4 for other side.

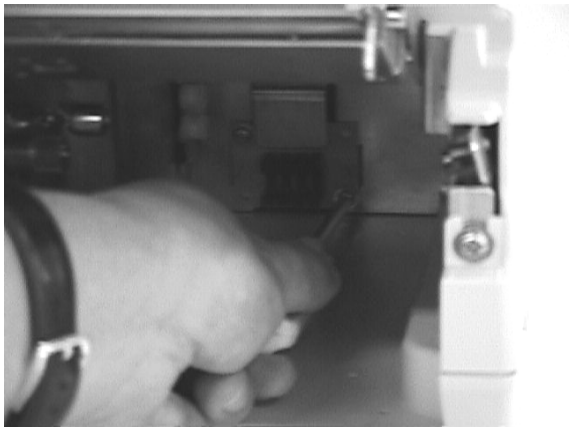
7.6 EXCHANGE OF CASSETTE SENSOR



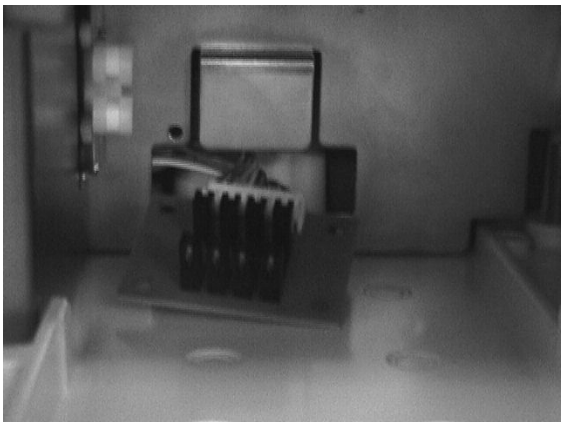
1. Pull out the cassette.



2. The sensor is fixed by two screws.



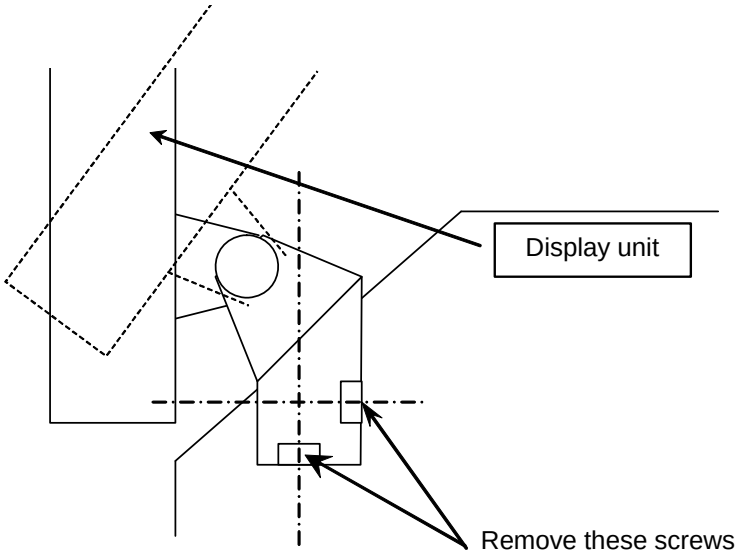
3. Remove the screws.



4. Remove the connector out of the sensor.

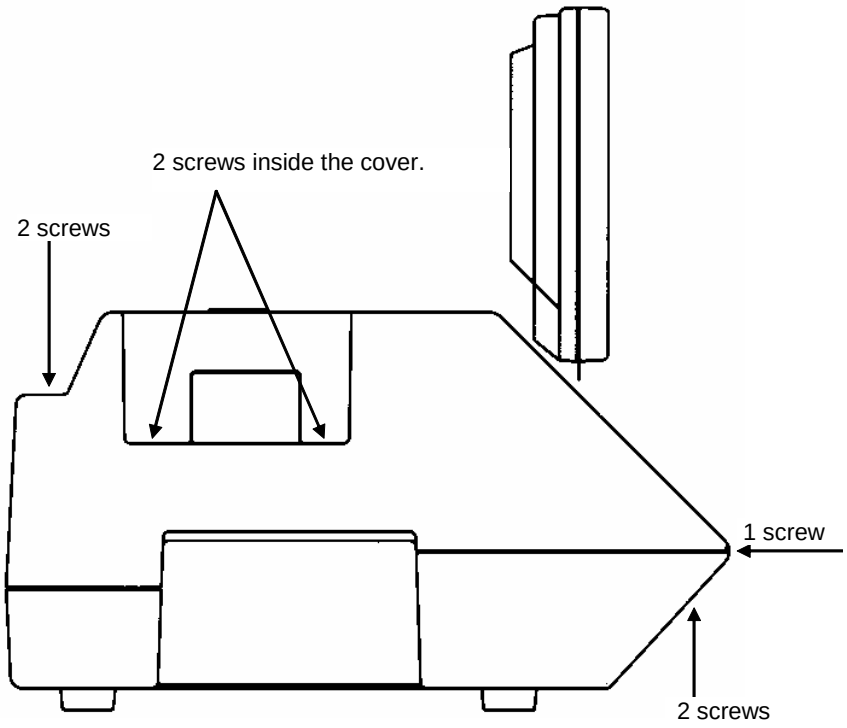
7.7 DETACH OF DISPLAY UNIT

Remove the truss that fixes the back cover, and remove the connection cable. Remove the four screws that fix the display unit. If a screwdriver cannot reach those screws, change the angle of the display unit.



7.8 DETACH OF TOP COVE

The top cover needs to be removed to remove the display unit. (Refer to 7.7.)
The top cover is fixed by seven screws.



7.9 TROUBLESHOOTING

Problem 1	Problem 2	Causes or Remedies
Power supply is not turned ON.	Buzzer does not sound.	・Check that the power plug and power cable are connected. ・Check the voltage of the outlet (100 VAC). ・Check the power supply unit (connector and harness).
Screen is not displayed.	Buzzer sounds but the screen is not displayed.	・Check the volume of the right side of the screen. ・Disconnection of the connector at the back of the display or contact failure. ・Check the connections of XJ2, XJ5, XJ9, XJ10, and XJ11 of P-910B-2. ・Check the connector and harness of P-919. ・Defect of the back light inverter ・Defect of the inside the display unit of P-917 or LCD
The printer stops while displaying “Wait” on the screen.	The printer stops in the middle of process, or displays an error.	・Defect of P-910-2 ・Defect of the CF card or contact failure of the socket
Unable to do numeric key entry.	Unable to do any or particular key entry.	・Disconnection of XJ7 of P-910B-2, or contact failure. ・Defect of the numeric keypad
Displacement of the touch panel keys	Displacement of the display key buttons and touch input	・Adjust the touch panel of the test mode. ・If the positioning cannot be recovered, replace the display unit.
Display is dark.		・Defect of the volume. ・Defect of the back light. ・Defect of the back light inverter board.
The printer does not work.	Display is normal.	・Check the connection of XJ1 and XJ5 of P-910B-2. ・Check the connection of XJ3, XJ9, and XJ10 of P-909C-1. ・Defect of P-909C-1. ・Defect of P-910B-2. ・Defect of the power supply unit. ・Defect of the gear. ・Defect of the stepping motor.
Unable to print.	The printer normally works.	・Set the print density of the print adjustment of the test mode. ・Adjust the position of the thermal head. ・Check the connection of the thermal head. ・Defect of the thermal head. ・Defect of the label or receipt (not a thermal paper) ・Check the connection of XJ5 of P-909C-1. ・Defect of P-909C-1.
Print is light.		・Clean the thermal head. ・Adjust the location of the thermal head. ・Defect of the label and receipt. ・Defect of the power supply unit. ・Defect of the printing roller.